

U.S. DEPARTMENT OF COMMERCE  
+ + + + +  
NATIONAL OCEANIC AND ATMOSPHERIC  
ADMINISTRATION (NOAA)

+ + + + +  
HYDROGRAPHIC SERVICES REVIEW PANEL (HSRP)

+ + + + +  
MEETING  
+ + + + +  
FRIDAY  
MAY 6, 2011  
+ + + + +

The Hydrographic Services Review  
Panel met in the Kona Moku Ballroom at the  
Waikiki Beach Marriott Resort and Spa, 2552  
Kalakaua Avenue, Honolulu, Hawaii, at 8:30

a.m., Edmund Welch, Chair, presiding.

HSRP MEMBERS PRESENT:

EDMUND B. WELCH, Chair  
MATTHEW WELLSLAGER, Vice Chair  
LAWSON W. BRIGHAM, Ph.D.

JEFFERY J. CAROTHERS  
MICHELE DIONNE, Ph.D.  
CAPT. SHERRI HICKMAN  
CAPT. THOMAS A. JACOBSEN  
DAVID A. JAY, Ph.D.  
GARY JEFFRESS, Ph.D.  
JOYCE E. MILLER

SCOTT R. PERKINS  
SUSAN SHINGLEDECKER

HAZARDS AND COASTAL MANAGEMENT STAKEHOLDER  
PANEL:

LCDR MARCELLA GRANQUIST, Waterways Management  
Division, Sector Honolulu, U.S. Coast Guard  
DAWN JOHNSON, State of Hawaii Civil Defense  
SAMUEL J. LEMMO, Office of Conservation and  
Coastal Lands, Hawaii Department of Land and  
Natural Resources

JOHN ROONEY, Ph.D., Pacific Islands Benthic  
Habitat Mapping Center

ADAM STEIN, Pacific Risk Management 'Ohana  
(Primo)

ALSO PRESENT:

JULIANA BLACKWELL, NOAA/National Geodetic  
Survey Director

PAUL BRADLEY, NOAA/NOS/PPAD

ARTHUR BUTO, DLNR

EDWARD CARLSON, NOAA/NGS

VIRGINIA DENTLER, NOAA/HSRP

RICHARD EDWING, NOAA/CO-OPS Director

DOLAN EVERSOLE, University of Hawaii Sea Grant

CAPT. GERD GLANG, NOAA/NOS

LAURA HAMILTON, NOAA

TIFFANY HOUSE, NOAA/HSRP

CAPT. JOHN E. LOWELL, JR., Designated Federal  
Official, NOAA/OCS Director

JOHN MARRA, Ph.D., NOAA National Climatic Data  
Center, Regional Climate Services Director,  
Pacific Region

BOB McFARLAND, U.S. Coast Guard

MICHAEL PARKE, Ph.D., NOAA/Pacific Islands

Fisheries Science Center

JESSICA PODOSKI, U.S. Army Corps of Engineers

LT. KYLE RYAN, NOAA/OCS

KATHY WATSON, NOAA/HSRP

# C-O-N-T-E-N-T-S

Welcome/Day 2 Recap . . . . .	.5
Hazards & Coastal Management	
Stakeholder Panel	
Sam Lemmo, Office of Conservation and Coastal	
Lands, Hawaii Department of Land and	
Natural Resources . . . . .	.108
John Rooney, Pacific Islands Benthic Habitat	
Mapping Center. . . . .	21
Adam Stein, Pacific Risk Management	
'Ohana (PriMO). . . . .	34
LCDR Marcella Granquist, Waterways	
Management Division, Sector Honolulu,	
U.S. Coast Guard. . . . .	48
Dawn Johnson, State of Hawaii	
Civil Defense . . . . .	64
NOAA Budget Process & Policy/	
Legislative Update . . . . .	.139
HSRP Discussions. . . . .	.195
HSRP Next Steps . . . . .	.255

P-R-O-C-E-E-D-I-N-G-S

(8:43 a.m.)

CHAIR WELCH: Good morning, we'll call to order our third and final day of the meeting of the Hydrographic Services Review Panel for National Oceanic and Atmospheric Administration.

Let's do a couple of administrative things first.

I went over and handed my paperwork to Tiffany, fully expecting that I would be the last person to turn it in, and lo and behold, I wasn't, so, and I know the names of the people that haven't turned it in, but I'm not going to call you out by name, but Tiffany needs your paperwork for your expense material. So, be sure and get that to her, before you leave.

For our guests, welcome. We ask - we have a sign-in sheet in the front and we would ask that you sign in, give us your name and affiliation.

1 Kathy, any other administrative  
2 things?

3 MS. WATSON: No, everything is  
4 fine.

5 CHAIR WELCH: All right, Captain  
6 Lowell, any remarks from you, introductory  
7 remarks?

8 CAPT. LOWELL: I guess a comment.  
9 I think it's been a pretty good two days, so  
10 far. This is the day we're going to wrap up  
11 with the Coastal Panel. So, thank you, for  
12 the members, for coming in, for the regional  
13 folks here.

14 And then I hope everyone has been  
15 thinking about what we're going to try to get  
16 done this afternoon. It's a little bit  
17 different than the things we've done before,  
18 but I think it will set the stage for how we  
19 move out, over the next several years, with  
20 the new panel -- with this panel as  
21 constituted here.

22 So, I'm looking forward to today.

1 Thank you all very much.

2 CHAIR WELCH: Thank you, John, and  
3 so, just before we get to introduce our new  
4 panel and have them make their presentations,  
5 we have some folks here that have not been  
6 here at previous -- the previous two days.

7 So, for your benefit, this strange  
8 animal called the Hydrographic Services Review  
9 Panel is an Advisory Committee for NOAA and  
10 most of its members are from the private  
11 sector, from around the country, and our role  
12 is to learn about and give our comments and  
13 recommendations to NOAA on its various  
14 hydrographic and navigation services and  
15 products.

16 And so, we find it particularly  
17 useful when we have panels of local users and  
18 contributors to those services and products,  
19 because what we're looking for is your  
20 suggestions to us, as to what's working or  
21 what might not be working, or what could be  
22 done differently, and these have proven to be

1 very effective ways for us to get information  
2 first-hand.

3 So, thanks for your presentation,  
4 and with that, unless any members have a  
5 question or comment, we'll go straight to our  
6 third panel of -- and this is called the  
7 Hazards and Coastal Management Stakeholder  
8 Panel, and our first speaker is Mr. Adam  
9 Stein. Mr. Stein, welcome.

10 MR. STEIN: Thank you.

11 CHAIR WELCH: Go right ahead.

12 Mr. Stein, if you would not feel  
13 totally like an airline passenger, we're going  
14 to bump you to later, and so, we'll go to Mr.  
15 Lemmo, Mr. Sam Lemmo.

16 MR. LEMMO: Thank you. My life is  
17 plagued by this problem of always being early  
18 and handing my stuff in first. It's always  
19 getting me somewhere.

20 Anyway, thank you very much for  
21 this invitation to give a presentation. My  
22 name is -- I'm just going to give you some

1 background about myself and what my agency  
2 does, and then go into the presentation today,  
3 and then you can either ask questions or move  
4 on to the next panel.

5 CHAIR WELCH: What we'll do is,  
6 we've been letting each -- all the panelists  
7 make their statements and we've been holding  
8 our comments or questions until you all  
9 finish. So, that's what we'll do today.

10 MR. LEMMO: Okay, all right. So,  
11 I'll give a presentation of what I do in my  
12 agency and then give my presentation and then  
13 we'll move on to the next one?

14 CHAIR WELCH: Right.

15 MR. LEMMO: Okay, thank you. I'm  
16 the Administrator of the Office of  
17 Conservation and Coastal Lands, which is a  
18 division within the Department of Land and  
19 Natural Resources.

20 The Department of Land and Natural  
21 Resources is a state agency in the Executive  
22 Branch of Hawaii government, with



1 responsibility -- is to protect and conserve  
2 the state's natural resources for the benefit  
3 of present and future generations.

4 We have a wide mandate. For  
5 instance, we are responsible not only for  
6 terrestrial resources, we're also responsible  
7 for marine resources three miles out, out in  
8 the ocean of the Hawaiian archipelago.

9 So, our responsibilities are quite  
10 expansive, and we have various divisions  
11 within the DLNR that have specific functions  
12 they perform in resource management. For  
13 instance, Division of Forestry and Wildlife  
14 take care of the watershed areas. The  
15 Division of Aquatic Resources takes care of  
16 our fisheries. We have a Parks Division that  
17 takes care of the state parks around the  
18 state. We have a Water Commission that's  
19 responsible for the allocation of water to  
20 users throughout the state. We have a Land  
21 Division that's responsible for the management  
22 of an unencumbered state land, kind of like

1 the BLM, or something, would be a good  
2 analogy.

3 My office is called the Office of  
4 Conservation and Coastal Management. We're  
5 responsible for a regular -- regulating all of  
6 the conservation lands in the state of Hawaii,  
7 and regulatory, in a sense of, you would look  
8 at a county regulatory agency, like a county  
9 zoning authority, well, we're a state zoning  
10 authority.

11 We have, under our responsibility,  
12 about half the land in the state to regulate.  
13 That land includes terrestrial lands, from the  
14 mountaintops of Mauna Kea and Haleakala, to  
15 the shorelines of the State of Hawaii, and to  
16 -- out into the ocean, on submerged lands,  
17 three miles out.

18 We regulate telescopes. We  
19 regulate fish farms. We regulate open-ocean  
20 energy. We regulate terrestrial energy  
21 production facilities like wind farms. We  
22 regulate public facilities. We regulate the

1 development of public infrastructure, roads,  
2 sea walls, water systems, many, many different  
3 things, all of these things happening within  
4 the conservation district, which almost seems  
5 like that doesn't make sense.

6 But the reality is, even though  
7 it's conservation land, people still are  
8 allowed to make use of these areas, but the  
9 uses have to be within reason, and it has to  
10 be judicious use and it has to be sustainable  
11 use.

12 We certainly don't allow intense  
13 urban developments, commercial developments  
14 and those types of things.

15 One of the things that my office  
16 got specialized in over the past 10 years was,  
17 we became very concerned about the condition  
18 of our beaches and this is because the state  
19 of Hawaii had no comprehensive beach  
20 conservation program or beach protection  
21 program.

22 We do have an Office of Coastal

1       Zone Management. They're performing numerous  
2       functions, but they weren't specifically  
3       dealing with the issue of regulating  
4       activities or misuses of our beaches.

5               And so, my agency stepped in and,  
6       over the past 10 years, we've done many  
7       different things around the state of Hawaii to  
8       further the protection of our beaches.

9               In Hawaii, we used to have --  
10      there used to be the idea that if you had an  
11      erosion problem, you would just come in and  
12      build a sea wall, and we pretty much changed  
13      the thinking on that.

14              We've kind of had a philosophical  
15      shift in that, so that now, before building a  
16      sea wall, people are willing to look at a  
17      number of alternatives to that, like, you  
18      know, doing beach restoration, for instance,  
19      which I'm sure many of your are aware of.

20              Also, maybe looking at the idea of  
21      relocating structures away from the shoreline  
22      and that kind of thing.

1                   We've worked very closely with the  
2           University of Hawaii, Coastal Geology Group  
3           and they have been busy producing data all  
4           over the state of Hawaii, regarding shoreline  
5           change, so that effectively -- developed maps  
6           that provide projections of erosion hazards  
7           around the states, around the state of Hawaii,  
8           we've taken these maps now, and they've been  
9           implemented at the county level, we're  
10          implementing them at the state level, so that  
11          we can make sure that development along the  
12          shorelines is, you know, done in a more  
13          rational process and protect the beach and  
14          protect the coastal communities against  
15          coastal hazards.

16                   So, I'm going to get it to the --  
17          I'm going to give a really brief overview of  
18          this little project that we did, which is  
19          really the first of its kind that we've done  
20          in Hawaii.

21                   I'm sure some people have been  
22          doing this in other areas, but this is really

1 a first for Hawaii, and this was a partnership  
2 between the Department of Land and Natural  
3 Resources, the Sea Grant Program at the  
4 University of Hawaii and NOAA.

5 I just threw this slide in here to  
6 kind of describe to you what my life is like  
7 on a day-to-day basis. So, if you don't get  
8 it, you can come talk to me later.

9 Okay, clicker. Okay, this has one  
10 -- thank you for your patience.

11 This little plan that we did, it's  
12 called the Kailua Beach Dune and Beach  
13 Management Plan, and it's a local example of  
14 climate change adaptation. This was completed  
15 late last year or earlier this year.

16 As you can see, we have the  
17 partners, DLNR, Sea Grant, NOAA and of course,  
18 the Coastal Geology Group.

19 The purpose of the plan is to  
20 anticipate the effects of sea level rise,  
21 preserve and restore coastal dunes, develop  
22 proactive standards for new construction in

1 the coastal zone, increase public awareness  
2 and education and provide funding and support  
3 mechanisms.

4 The overarching purpose is really,  
5 by weaving together science, natural resource  
6 management, urban planning and public  
7 education, the Kailua Dune Beach Management  
8 Plan provides a simple blueprint for climate  
9 adaptation in Kailua, and what's important  
10 about this -- this little plan that affects  
11 Kailua Beach, and by the way, Kailua Beach is  
12 a -- Kailua is a little community on the  
13 windward side of the island of Oahu.

14 So, if you drove over to Pali and  
15 the Pali look-out, which maybe some of you  
16 have -- are aware of or have been to, and you  
17 just went all the way over to the windward  
18 side, you would come into the community of  
19 Kailua.

20 This plan is replicable. So, you  
21 could take this plan and recreate this similar  
22 planning effort in another -- in other areas.

1                   So, who really cares about this?

2                   Well, the reason we care is because through  
3                   doing this type of planning, we can actually  
4                   protect our beaches and coastal areas for  
5                   future generations.

6                   If we go about business the same  
7                   way that we've been going about business for  
8                   the past decade -- for the past 100 years,  
9                   what we do is, we -- the way we'd react to sea  
10                  level rise is, we'd build sea walls. The  
11                  beach would disappear.

12                  But there is another reason for  
13                  this plan, because it talks about adaptation,  
14                  so, we're going to be looking at the  
15                  possibility of guiding the urban development  
16                  in back of the beach, moving development away  
17                  from the beach, and so, now, you're building  
18                  community resiliency as a result of this plan.

19                  So, it's kind of, in a way, a  
20                  sustainable kind of community plan and it's a  
21                  -- I'll get into that in just a moment.

22                  So, this is what was done. There



1 was a study done last year, by UH and they  
2 kind of calculated what sea level might look  
3 like in Hawaii in 100 years.

4 There was a study done by Chip  
5 Fletcher, and basically, there was a consensus  
6 that by the year 2104, sea level may well rise  
7 by one meter in Hawaii, and so, basically,  
8 they took that one meter of sea level rise and  
9 they located a landward shoreline, based on  
10 the one meter of sea level rise.

11 Actually, they developed three  
12 benchmarks, sea level rise by 2052, sea level  
13 rise by 2078 and sea level rise by 2104.

14 So, this gives you a more detailed  
15 look at one of the sections, and so, you can  
16 see the purple line is 30 centimeters of sea  
17 level rise. The green line is, I think, 60  
18 centimeters and the yellow line, the last line  
19 is one meter, and as you can see, the one-  
20 meter line kind of runs right up the front of  
21 many of the structures along Kailua Beach.

22 Another thing we're doing is,

1 we're trying to protect the coastal dune from  
2 seaward creep. A lot of people are -- have  
3 been encroaching upon the state beach,  
4 planting vegetation, irrigating, fertilizing  
5 and so what happens is the vegetation creeps  
6 in a seaward direction.

7 So, this essentially blocks public  
8 access along the beach and changes the dune  
9 ecosystem, which we do not think is in the best  
10 interest of the dune ecology, in the long  
11 term.

12 Okay, going back. So, we're going  
13 to look -- the plan looks at regulatory  
14 adaptation strategies and non-regulatory  
15 strategies. Some of the regulatory strategies  
16 are to create new development standards.

17 For instance, we're toying with  
18 the idea of creating a coastal construction  
19 line, and you can see, there has been a line  
20 drawn here. This line coincides with the most  
21 seaward face of major structures along Kailua  
22 Beach, and there was actually a bill

1 introduced in the legislature to adopt a  
2 coastal construction line, so that no more  
3 construction could encroach seaward of this  
4 line.

5 We're also looking at possibly a  
6 special planning district, so, that instead of  
7 continuing to subdivide these areas and  
8 increase urban development, we would kind of  
9 look at the opposite, maybe decreasing density  
10 of development, and possibly, even moving  
11 people back, in the long term.

12 Non-regulatory adaptation  
13 strategies include, of course, acquisition of  
14 selected beach-front properties, and there is  
15 a number of methods to do that, reverse  
16 mortgages, dedications, conservation  
17 easements, straight-up condemnation,  
18 developing funding mechanisms to do these,  
19 promote inter-agency stakeholder coordination  
20 and of course, increased public awareness, and  
21 of course, education and outreach.

22 We're continuing to educate the

1 broader public about the hazards of living  
2 near the shore. So, there's been an atlas of  
3 natural hazards published in Hawaii.

4 We have published a Hawaii Coastal  
5 Hazard Mitigation Guidebook. This is a  
6 cookbook on how to develop kind of -- develop  
7 and -- develop property in the shoreline area  
8 and considering coastal hazards early in the  
9 development process, so that we can protect  
10 the beach and that we can protect the coastal  
11 communities in the long term, and we published  
12 with Sea Grant, this Purchasing Coastal  
13 Property in Hawaii, because want people who  
14 buy property in Hawaii to understand what  
15 they're getting, and what they're not getting,  
16 when they buy a piece of property on the  
17 shoreline.

18 Challenges to plan implementation,  
19 of course, there is always the climate science  
20 uncertainty, a lot of doubters out there,  
21 still, potential for regulatory takings, and  
22 of course, political will. A lot of our --

1       you know, politics is politics.

2               People take the short view, many  
3       times, instead of the long, inter-generational  
4       view, and we're still trying to figure that  
5       one out.

6               One of the big challenges is that  
7       we need to try to reduce, rather than  
8       increase, land use densities in the shoreline  
9       area. Everybody wants to move to the  
10      shoreline, as you're all well, fully aware of,  
11      and how do you reverse that trend, and then  
12      how to fund things, always a challenging  
13      issue, and with that, I'm available for  
14      questions.

15              CHAIR WELCH: Okay, thanks very  
16      much for an excellent presentation. We will,  
17      I'm sure, have some questions and comments for  
18      you. Okay, Mr. Rooney?

19              DR. ROONEY: Okay, thank you. My  
20      name is John Rooney. I am with the NOAA  
21      Pacific Islands Fishery Science Center and the  
22      Pacific Islands Benthic Habitat Mapping

1 Center, or PIBHMC, for short, and I want to  
2 also thank the Hydrographic Services Review  
3 Panel for this opportunity to, as it said in  
4 the invitation letter, express my views on how  
5 NOAA might improve its navigation and science-  
6 related products and services.

7 My views are very much shaped by  
8 working with our mapping center, and so I want  
9 to tell you a little bit about the work that  
10 our mapping center does to provide a bit of a  
11 context for some of my comments and  
12 recommendations before the panel.

13 Our mapping group was really  
14 formed with a specific goal in mind, to map --  
15 product benthic habitat map products for coral  
16 reef ecosystems within the Pacific Islands  
17 Region.

18 We've been predominantly funded to  
19 do that work by the NOAA Coral Reef  
20 Conservation Program. We've also received  
21 generally, in-kind support from a number of  
22 partners, and of particular interest, perhaps,

1 to this panel, we do collect and distribute  
2 high resolution of bathymetry, but we also try  
3 to provide some other biologically important  
4 sea floor maps.

5 For instance, maps like you see  
6 here, delineating rocky versus sandy  
7 substrates and where we have sufficient data  
8 density, we'll try to map distributions of  
9 biological communities, as well.

10 All these data are collected with  
11 the idea of providing management tools, tools  
12 to, you know, to better manage, in particular,  
13 coral reef ecosystems.

14 However, map products are pretty  
15 basic tools for management and science in the  
16 marine realm, in general. These are some of  
17 the other uses of our map products, over the  
18 years, listed up here.

19 I won't go through them all, but I  
20 just want to make the point that our map is a  
21 really useful tool for a wide number of  
22 applications, and we do make an effort to get

1       -- to give our data a wide distribution, which  
2       helps it to be used by the stakeholders in a  
3       lot of different applications.

4               We maintain bathymetry syntheses  
5       at each of the island groups within the  
6       Pacific Islands region, so the main and  
7       Northwestern Hawaiian Islands, American Samoa,  
8       Guam and the Northern Marianas, as well as the  
9       Pacific Remote Island Area, home of some of  
10      the new Marine National Monuments.

11             In addition, well, I should also -  
12      - I should acknowledge the School of Ocean and  
13      Earth Science and Technology at the University  
14      of Hawaii, does maintain the bathymetry  
15      synthesis for the main Hawaiian Islands. We  
16      contribute to that and exchange data with  
17      them.

18             We also exchange data with a lot  
19      of other entities out there, NGDC, Naval  
20      Oceanographic Office, Office of Coast Survey  
21      and others, and all of the data products that  
22      we produce are made available on our website



1 listed here, and generally, we have a pretty  
2 quick time -- turnaround time, one to two  
3 years, depending on the level of processing  
4 required.

5 Like everybody that operates in  
6 the Pacific Islands Region, we share a number  
7 of challenges working there. This is a little  
8 map of the region and the different island  
9 groups and archipelagos that we work at.

10 The groups are separated by vast  
11 distances, you know, thousands of kilometers,  
12 and within each group, the islands themselves  
13 are scattered. We have data from about  
14 something over 50 different islands, banks and  
15 atolls. There are a number of other banks out  
16 there that still need to get some degree of  
17 surveying done, which kind of brings up  
18 another point.

19 We've gone out to try to do multi-  
20 beam surveying over banks that show up on the  
21 charts on a number of occasions, in a number  
22 of different areas, and we find that the

1 charted locations, there is no bank there, or  
2 they're -- the bank is actually in a different  
3 location.

4 Sometimes we've mapped banks that  
5 don't show up on the charts, at all.

6 This slide over here, I snipped  
7 from a chart the other day, from the NOAA  
8 chart reviewer. It's just a current edition,  
9 and it's just chart A1092 from the Northern  
10 Marianas, and the source data for that, I  
11 don't know if you can see that from where  
12 you're sitting, but it's from a pre-1940  
13 Japanese survey, and you know, they know it  
14 includes only partial bottom coverage.

15 So, it's pretty old data, and you  
16 know, things change over time. There is a  
17 general need for hydrographic surveying in the  
18 area, you know, within the entire region.

19 Of course, you know, at the same  
20 time, there is that need, nationally, there is  
21 increased concern about the federal budget.  
22 Within our group, we've been facing budget

1 reductions over the last couple of years, and  
2 so, any recommendations that this panel makes  
3 to NOAA leadership is, of course, going to  
4 have to reflect critical data needs for areas  
5 where greater efficiencies could be realized.

6 So, I'm going to move now, into  
7 some specific comments, or requests, really,  
8 and in coming up with those, I have tried to  
9 keep these criteria of essential needs or  
10 greater efficiencies in mind.

11 Okay, and I'll just tell you right  
12 now, the first one is unabashedly self-  
13 serving, but nonetheless, I believe I does  
14 lead to greater efficiencies.

15 I mentioned, there is a general  
16 need for more hydrographic surveying within  
17 the Pacific Islands Region, and there are some  
18 high-priority needs that come up from time to  
19 time, in navigation channels and harbors,  
20 places like that.

21 At the same time, to mobilize even  
22 a single survey launch and get it all the way

1 out to -- even to Hawaii, let alone to  
2 American Samoa or you know, one of these other  
3 island groups, it's prohibitively expensive.  
4 It's logistically challenging just to make it  
5 happen at all.

6 For that reason, our group  
7 operates a survey launch here, eight-meter  
8 survey launch, the R/V AHI. She's equipped  
9 with a Reson 8101 ER multi-beam echo sounder,  
10 and because of the difficulties of getting one  
11 of their own vessels out there, the Office of  
12 Coastal Survey has used the AHI to survey four  
13 different harbors within the Pacific Islands  
14 Region over the last five or six years.  
15 Discussions are underway with OCS, about doing  
16 another couple of surveys, as well.

17 Data from the AHI have been used  
18 for tsunami inundation modeling and, you know,  
19 obviously, there have been several very  
20 damaging tsunamis in the Pacific region over  
21 the last few years. It's not a need that's  
22 going to go away.

1                   Data have also been used for other  
2                   tasks, like this was a recently completed  
3                   survey from the south shore of Oahu, where our  
4                   vessel grounding occurred, so, assessing some  
5                   of the damage from that impact.

6                   So, with that preamble, I would  
7                   like to suggest to the panel that they  
8                   consider recommending to NOAA leadership that  
9                   we get some support to maintain this vessel.

10                  It's becoming harder and harder  
11                  for us to do that, and it has demonstrated its  
12                  value as a regional asset. You know, it's  
13                  cheaper to use the AHI than it is to try to  
14                  ship another vessel out to the region to  
15                  fulfill some of our mutual needs out here.

16                  Okay, for the next recommendation  
17                  that I've got, or request, this is the island  
18                  of Rota, and I got this image of that island.  
19                  It's in the Northern Marianas, and it's  
20                  surrounding the satellite imagery. It's  
21                  color-coded, multi-bathymetry that we've  
22                  collected, both using the R/V AHI, as well as

1 multi-beams from the NOAA ship Hi'ialakai.

2 I picked this island, just because  
3 it crossed my desk recently, but I could have  
4 chosen almost any island in the entire region,  
5 and you see this, this area between the island  
6 itself, and this kind of broad, dark blue  
7 colored area, and the multi-beam bathymetry.

8 It's near shore areas where we  
9 can't get in to survey with the multi-beam,  
10 but it's a super-critical area, a lot of  
11 biological processes happen in this near-shore  
12 region, it's an area of active physical  
13 processes, you know, sediment dynamics, beach  
14 erosion, long shore sediment movement, lot of  
15 anthropogenic activity happens in this -- very  
16 close to the shore zone, as well, fishing,  
17 that is where vessel groundings happen,  
18 coastal construction, and so on.

19 Right now, we don't have the means  
20 to fulfill this -- to fill this critical data  
21 gap.

22 So, I'd like the Board to consider

1 recommending that you'll embark on a  
2 systematic program to collect bathymetric  
3 LIDAR throughout the region, to fill in this  
4 critical data need.

5 Recently, the National Ocean  
6 Council was established and the Council has  
7 articulated nine different national priority  
8 objectives, the second one of which is coastal  
9 and marine spatial planning.

10 This is a lofty and great goal. I  
11 fully support it, and they describe that as an  
12 effort to implement comprehensive, integrated  
13 ecosystem-based coastal and marine spatial  
14 planning and management across the U.S.

15 I hope folks back in Silver Spring  
16 and D.C. realize that, in order to actually  
17 implement this, you need to have the  
18 underlying spatial data, and in a lot of cases  
19 in the Pacific Region, and I know as well, in  
20 the Atlantic and Caribbean and the Gulf, the  
21 data just aren't there for -- to make this an  
22 effective process.

1                   So, I'd just like a little  
2                   endorsement that, you know, there is some  
3                   recognition, we need support to help collect  
4                   the data to make this a viable program.

5                   And finally, this is a chart from  
6                   Apra Harbor in Guam, and overlaying on the  
7                   chart, there is high resolution bathymetry.  
8                   This is an area of very active military build-  
9                   up going on right now, really massive.  
10                  They're going to increase the population of  
11                  the island by 30 percent.

12                  We didn't collect these data. We  
13                  were able to get a hold of them, by -- you  
14                  know, by shameless use, really, of personal  
15                  contacts within the Naval Oceanographic  
16                  Office.

17                  But it brings up a point, that  
18                  it's ridiculous for the military to go out and  
19                  collect data and then for NOAA or commercial  
20                  entities to go out and re-collect these same  
21                  data because we haven't had -- we haven't  
22                  known the data to be existing, or haven't been



1     able to get access to them, and we do this  
2     again and again.

3             So, the Board might consider  
4     making a recommendation for NOAA leadership to  
5     initiate a long-term program for data-sharing  
6     with the Department of Defense.

7             So, just a quick recap, here,  
8     coming from the perspective of somebody  
9     engaged in the sea floor mapping,  
10    specifically, benthic habitat mapping in the  
11    Pacific Islands Region.

12            We've got four different requests  
13    for the Board, that they let -- perhaps,  
14    consider passing on to the NOAA leadership,  
15    first, to help us maintain the availability of  
16    this regional asset, the R/V AHI, to collect  
17    bathymetrical data to fill the really critical  
18    gap in near shore bathymetry. It's essential  
19    for a lot of management and science, as well  
20    as for navigation, safe navigation.

21            I'd like to see some support for  
22    the collection of mapping data to support

1 coastal and marine spatial planning, and  
2 finally, the -- I'd like to see the initiation  
3 of a long-term agreement to get access to the  
4 Department of Defense spatial data, and that's  
5 all I've got, and I guess we're holding  
6 questions until the end, so, thank you, and  
7 we'll talk later on.

8 CHAIR WELCH: Great, thanks very  
9 much, Mr. Rooney and Mr. Stein, we've got a  
10 boarding pass for you. You can get on, and we  
11 don't have to give you compensation.

12 MR. STEIN: I'd like to be moved  
13 to the front of the plane, sir.

14 CHAIR WELCH: We'll give you a  
15 first-class seat.

16 MR. STEIN: Thank you for this  
17 opportunity to address the panel today.  
18 Again, my name is Adam Stein. I'm the  
19 Executive Director of the Pacific Risk  
20 Management 'Ohana, or PRiMO.

21 Before I leave this slide, I'd  
22 like to call your attention to two things.

1 First, is the word 'Ohana.

2 In the Hawaiian language, 'Ohana  
3 has two similar meanings. The first is  
4 family. 'Ohana is also the group we work  
5 with.

6 So, in this case, it's a group  
7 that works together on risk management.

8 The second thing I'll call your  
9 attention to is the person holding the paddle  
10 in our logo. This paddle will become  
11 important in a few moments.

12 So, with that, I hope to provide  
13 you a little bit of background on our  
14 organization, and then as John did, provide  
15 some perspective.

16 So, we began as a roundtable, the  
17 Federal Hazard Mitigation Partners in the  
18 Pacific Islands in 2002. We tried to bring  
19 together, the Army Corp, FEMA, NOAA, USGS and  
20 those agencies primarily interested in hazard  
21 risk management, and it was apparent from our  
22 first effort that we could not keep other

1 people out of the room.

2 This was one of the few  
3 opportunities for these federal agencies to  
4 meet together in the region about this topic,  
5 and our efforts quickly grew, in terms of, we  
6 needed to add the territorial, state and local  
7 counterparts from across the region, as well  
8 as a number of regional servicing  
9 institutions.

10 And so, in 2004, there was a call  
11 to formalize and sustain our coordination  
12 through this effort, and we became the Pacific  
13 Risk Management 'Ohana.

14 And so, what we are is a  
15 consortium of local, national and regional  
16 agencies and institutions and organizations,  
17 and are committed to enhancing the resilience  
18 of Pacific Islands to coastal hazards and  
19 climate impacts.

20 We have a mission and that's  
21 really to increase collaboration through  
22 coordination, to improve the development,

1 delivery and application of risk management  
2 products and services for these specific  
3 communities.

4 I did not include a map, but we  
5 work in the same general area as the map that  
6 was shown by Dr. Rooney, and the U.S. flag  
7 Pacific Islands, and of course, this being a  
8 very international region, we do, through many  
9 of our partners, work internationally.

10 Now, I'm going to refer you back  
11 to the paddle within our logo.

12 We've adopted the use of we -- we  
13 use the analogy of the Polynesian voyaging  
14 canoe to articulate how we work together.

15 We have an Executive Council. On  
16 any canoe, you need good navigators, and these  
17 navigators are folks from these agencies and  
18 institutions, which provide us PRiMO with our  
19 policy direction and the resources to  
20 coordinate and collaborate.

21 The huis, hui is a group that  
22 works together, so, our huis 'Ohana are the

1 groups within the family. The hui are the  
2 folks with the paddles.

3 These are the folks that keep our  
4 coordination going throughout the year in  
5 technical areas of expertise such as data  
6 analysis decision support tools, which is  
7 chaired by NOAA, and focuses specifically on  
8 geo-spatial technologies.

9 We have a data management and  
10 observations group, which focuses on data  
11 sharing and developing data sharing  
12 agreements. We have a training hui, or  
13 working group that is lead by the National  
14 Disaster Preparedness Training Center, a FEMA-  
15 sponsored center at the University of Hawaii.

16 We have a disaster communications  
17 working group, chaired by the National Weather  
18 Service, a risk reduction hui, which is  
19 focused on hazard planning in the region.

20 Our traditional knowledge and  
21 practice hui, which is looking at traditional  
22 governance of disasters, and how that can be

1        complemented, or complementary to our National  
2        Incident Management System and our national  
3        response framework, and then lastly, and  
4        education and outreach hui, which is looking  
5        at creating a collection of educational and  
6        outreach materials for use across the region  
7        in multiple languages, and of course, multiple  
8        hazards.

9                    I think Juliana might recognize  
10       the gentleman in this photo. I wanted -- I'm  
11       not going to go through -- provide examples of  
12       the values of the collaborations that we've  
13       been able to do, but this is Ed Carlson, who  
14       works with the National Geodetic Survey.

15                   For all of you that have met Ed,  
16       he's a great asset to the region. He has done  
17       a tremendous amount of work to improve  
18       geodetic control across many of the Pacific  
19       Islands, and this is a motley crew here, but  
20       this is Ed, working with our colleagues from  
21       the American Samoa Power Authority, who had  
22       just led Ed and I to the top of this aid to

1 navigation in American Samoa after several  
2 hours of clearing through some pretty heavy  
3 cover.

4 This is an example of -- Ed and I  
5 were planning on going down to do some  
6 technical capacity building with a local  
7 government and do some leveling work to  
8 improve control, but when --- through Ed's  
9 commitment to partnership and the  
10 relationships we have established through  
11 PRiMO, we were able to identify the need the  
12 Coast Guard had, and the coast survey also  
13 had, to improve positioning of many of their  
14 aids to navigation.

15 So, we also spent several days  
16 across the island, up through -- doing GPS  
17 surveys.

18 So, as John mentioned, we have --  
19 it's incredibly expensive to travel to these  
20 places and to take equipment.

21 So, any time we can do joint  
22 activities like this, it really save money,



1 builds relationships, broadens perspectives  
2 and I just wanted to provide this as an  
3 example of the type of work in which we're  
4 looking to support.

5 So, now, I'm going to provide you  
6 a bit of three perspectives from the risk-  
7 management community, which we'd like for the  
8 HSRP to advocate for on our behalf.

9 The first is in regards to tsunami  
10 preparedness and response planning. I think  
11 there is a significant need for improvements  
12 in this area across the region and across the  
13 United States.

14 The image on the upper right is of  
15 global ship traffic data. I don't think I  
16 have to tell this audience, the economic and  
17 national security importance of these ports in  
18 this region, and how vulnerable they may be to  
19 near-source and distant tsunamis.

20 We had some -- I'll share some  
21 comments about recent experiences in a moment,  
22 but I think this is much to be done from Port

1 Authorities, as well as small boat harbor  
2 operators, whether private or public, as well  
3 as some outreach and education that may need  
4 to take place with the recreational boating  
5 community.

6 The image on the bottom is the  
7 morning of March 11th, following -- or 12th,  
8 following the Japan tsunami, and you can see  
9 this image that we have, recreational  
10 vehicles, recreational boats and commercial  
11 vehicles in the same area for several hours,  
12 and there were some significant problems, and  
13 I think we're very lucky that we did not have  
14 more issues.

15 But kudos to the Coast Guard and  
16 the Hawaiian Ocean Safety Team. I think you  
17 heard from Robin Bond earlier in the week,  
18 this group has done an incredible amount  
19 already, to begin to bring together the  
20 necessary parties to address some of these  
21 issues.

22 But I think this is an opportunity

1 for the panel to advocate for something that  
2 could have some significant national security  
3 and economic impact in the United States.

4 The second is to support  
5 investments that will help us to improve our  
6 inundation modeling, our capacity, our  
7 capabilities. Whether we're looking at  
8 impacts of sea level rise in our Pacific  
9 Islands, whether we're looking at storm surge  
10 impacts from typhoons and hurricanes, or  
11 whether we're looking at impacts of tsunamis  
12 and how they may behave within our harbors and  
13 along our shorelines, there are several things  
14 that we need.

15 I'm reiterating here, the first  
16 bullet, high-resolution near-shore bathymetric  
17 data. I left the word near-shore out here,  
18 but that's what I mean, and specifically, in  
19 American Samoa and the Northwest Hawaiian  
20 Islands, where we do have some high-resolution  
21 terrestrial data and if we were able to get  
22 that sliver that Dr. Rooney showed, it would

1 be incredibly beneficial from not only the  
2 benthic habitat mapping, but also from tsunami  
3 inundation modeling, sea level rise inundation  
4 modeling and storm surge modeling.

5           Lastly, to do that, we do need  
6 some improvements in vertical control,  
7 especially in our remote areas, and the  
8 development of tools, such VDatum, for use in  
9 the Pacific Islands would be incredibly  
10 valuable.

11           And lastly, water level  
12 observations are incredibly important for us,  
13 not only in terms of being able to see the  
14 impacts of these surges on our -- in our  
15 harbors and on our coast lines, but it becomes  
16 incredibly important for us to be able to  
17 improve our forecast capabilities in the  
18 future through model calibration and  
19 validation.

20           The image on the upper right is  
21 Apra Harbor. It seems to be a popular place  
22 to talk about.

1                   This is a -- this image shows a  
2                   tsunami inundation model developed by NOAA,  
3                   and I included it here because there were  
4                   recently, from the tsunami that was originated  
5                   in Japan, there were two vessels, two  
6                   submarines actually that came off their  
7                   moorings, and I think there is a tremendous  
8                   amount of work to be done in regards to  
9                   current speed forecasting within ports of  
10                  harbors.

11                  I think the tsunami modeling  
12                  community is feeling comfortable about their  
13                  ability to forecast time and amplitude, and I  
14                  think they could really use some support in  
15                  their ability to forecast current speeds  
16                  within abatements and harbors. I think this  
17                  is a critical need for all of you.

18                  And then lastly, the last thing  
19                  I'd want to advocate for is increased  
20                  stakeholder engagement and partnership  
21                  development.

22                  I've included a number of

1 opportunities for that, and I think these are  
2 incredible investments to be made. I'll make  
3 a couple of quick remarks on each of them.

4 The Pacific Integrated Ocean  
5 Observing System is a platform where we  
6 provide access through a NOAA program at the  
7 University of Hawaii to a large array of  
8 coastal observation data.

9 The Hawaii Ocean Safety Team is a  
10 great example of a local effort to bring  
11 together many parties to look at local issues  
12 related to maritime safety, and then the  
13 Coastal Resilience Networks Program is a NOAA-  
14 funded program which provides limited grant  
15 funding to Port Authorities and other groups,  
16 to help them address risk to coastal hazards  
17 and climate impacts.

18 And then lastly, the National  
19 Tsunami Hazard Mitigation Program, which all  
20 coastal states in the United States  
21 participate in and are able to develop funding  
22 mechanisms to address some of the issues, but

1       again, I say this is partnership development,  
2       because they don't have everything they need.

3               Then lastly, this is just an  
4       invitation for you all, as individuals and  
5       representatives of your organizations, and  
6       also, as a group, Mr. Chairman, to please feel  
7       free to become engaged in PRiMO.

8               The maritime community is one that  
9       we would certainly benefit from an increased  
10      participation, and our next meeting will be in  
11      Hawaii in March 2012.

12              So, we would encourage all of you  
13      to participate, if you're available, and with  
14      that, I think I'll turn it over to my  
15      colleague from the Coast Guard.

16              CHAIR WELCH:   Okay, well, thanks  
17      very much, Mr. Stein, and we appreciate your  
18      observations and next -- yes, and your  
19      invitation.   Maybe we could have this panel  
20      come two times in a row to Hawaii.

21              MR. STEIN:   We would welcome that.

22              MEMBER MILLER:   It might not be

1       raining so much the next time.

2                   MR. STEIN:   Yes.

3                   CHAIR WELCH:   Next, we'll turn to  
4       the Coast Guard, and Lieutenant Commander  
5       Marcella Granquist, who has been here all  
6       three days and now, she gets to speak, so,  
7       welcome.

8                   LT. CMDR. GRANQUIST:   Thank you,  
9       sir.

10                  CHAIR WELCH:   Go ahead.

11                  LT. CMDR. GRANQUIST:   Thank you.  
12       It's my moment to speak to you directly, and  
13       I -- from the last couple of days, there has  
14       been a couple of issues that have come up, and  
15       I've added them to my presentation.   So, if  
16       you'll bear with me, I'll get to the questions  
17       and/or situations that were posed over the  
18       previous days.

19                  So, aloha, and good morning.   On  
20       behalf of Captain Joanna Nunan, Captain of the  
21       Port for Hawaii, I thank you for allowing us  
22       to participate in your endeavor and I could



1 actually make this very easy, and I think Mr.  
2 Stein here, since I would literally second his  
3 recommendations, we're going to see a lot of  
4 overlap between the two of ours. So, I thank  
5 you, and so, I'll make mine a little more  
6 brief.

7 So, who we are. What we do,  
8 actually is who we are. We do a lot.

9 We are the premier maritime  
10 service. We answer to the public. We are the  
11 safety and security on the waterways. We are  
12 in just about every little niche that you can  
13 think of when it comes to maritime, and we do  
14 facilitate commerce first and foremost.

15 Also, as a multi-mission service,  
16 we do value joint operations and cooperative  
17 efforts and I will talk about that a little  
18 later.

19 I show you our area of  
20 responsibility for two things. Because we are  
21 responsible to maintain the welfare of  
22 everyone out on the waters, here within our

1 area of responsibility, Captain of Port  
2 Authority, we very much value the surveying  
3 and forecasting models. They're very optimal  
4 for the roughly 2,500 nautical miles of  
5 responsibility, area of responsibility that we  
6 are tasked with, especially when it comes to  
7 after-action restoration of normal operations  
8 for the ports and harbors here to facilitate  
9 commerce, not only for Hawaii, but for across  
10 the Pacific.

11 This is foremost, also on Hawaii,  
12 because we are a just-in-time economy here,  
13 and herd as high as 98 percent of what we need  
14 here to sustain ourselves comes by sea.

15 So, it's optimal for Hawaii, but  
16 very much so, to keep all the transit and  
17 commerce and economics going throughout the  
18 Pacific.

19 With that, this is just a little  
20 of what the Captain of the Port and some of  
21 our other operations here for the district,  
22 Admiral Ray is in charge of.

1                   This is what we did over fiscal  
2                   year 2010, and this is what we did with five  
3                   air assets, C-130s and some helos and 13  
4                   vessels to cover our 25 nautical mile area.

5                   So, joint efforts and cooperations  
6                   are optimal for us, having, again, the surveys  
7                   and the forecast models are very, very  
8                   important, because we wouldn't be able to do  
9                   a lot of this without that information, and  
10                  I'll go to some of the products that NOAA  
11                  provides to us in order to accomplish these  
12                  numbers and make everybody safe and secure on  
13                  the waterways here in Hawaii.

14                  Actually, you know what, I did put  
15                  in to, forgive me, my notes here, that I was  
16                  going to back up, to the -- is it BoatUS, that  
17                  brought up the towing yesterday?

18                  CHAIR WELCH: Susan, over here, is  
19                  our representative from Boat U.S.

20                  LT. CMDR. GRANQUIST: Yes, and our  
21                  policy, as the United States Coast Guard, is,  
22                  we have a four-point method for our towing

1 here in Hawaii, and I'll specifically speak  
2 about Hawaii, because it does change a little  
3 bit, on the mainland, because of the way the  
4 harbors and the constituencies are set up.

5 But here for Hawaii, first and  
6 foremost, when we do get a request for  
7 assistance or someone has simply run out of  
8 gas on the water, and can no longer be self-  
9 sustaining, in a non-emergency mode, the first  
10 thing we usually do, after talking to them, is  
11 to try to find a friend or family member, to  
12 go out and help them out, go give them some  
13 gas.

14 If there is no one that they can  
15 call upon, the second thing we will do is a  
16 maritime assistance broadcast, for any Good  
17 Samaritan, in or near that situation, that can  
18 help out, and often times, because of the  
19 distances between the islands and you're in  
20 open waters, roughly within two to three  
21 nautical miles off the shorelines here, that  
22 becomes a premier or a very important asset,

1 if someone is nearby, to be able to take care  
2 of them while they're out there, because it  
3 could take us hours.

4 Again, we only have 13 vessels,  
5 sprawled across four of the major islands  
6 here. So, we're few and far between.

7 The third thing that we will do is  
8 vessel assist. That is where they sit in.  
9 They have the resources, especially for the  
10 larger vessels, if they're in, again, non-  
11 emergency, but still unself-sustaining -- or  
12 not self-sustaining, vessel assist will go  
13 out, and I understand that vessel assist is on  
14 all islands, which I understand is either five  
15 or seven.

16 So, I believe it's at least the  
17 five islands, if not, all seven islands, major  
18 islands here in Hawaii.

19 Then the fourth thing that we will  
20 do, we will not leave them out there for days  
21 on end, if there is no one else. So, we will  
22 go and help them out.

1                   However, with the 13 assets, the  
2                   float assets that we have, you know, if you're  
3                   simply out maybe 20 nautical miles, that could  
4                   take two days. So, you've tied up that asset  
5                   for two days, which can become extreme, if we  
6                   have heavy weather set in, a tsunami from  
7                   nowhere, that can tie up that asset and that's  
8                   why it's a fourth in line.

9                   So, but for emergencies, we will  
10                  go out, and there are a lot of state assets  
11                  here, on the waterways, that are often closer  
12                  to the situation at hand. So, that is our  
13                  towing policy.

14                 I also put in here, for our Arctic  
15                 ops, for fiscal year 2012, and I actually  
16                 pulled the report for Congress, that is dated  
17                 April 14, 2012, from our Commandant, and his  
18                 statements have been in our policy, will be,  
19                 "The U.S. Polar Ice Breaking Fleet will  
20                 consist of the Polar Star and the Healy, with  
21                 the understanding that the National Science  
22                 Foundation ship, the Ice Breaker Palmer, will

1       also be working in the -- in the polar  
2       regions."

3               So, there will be three United  
4       States vessels in and around that area for  
5       2012 and forward. So, with that, I'll move  
6       on.

7               I say our partners, and not  
8       necessarily partnerships, because here, these  
9       are our 'ohana. Anybody that is out in the  
10      water is a partner to us. We are there to  
11      protect and to serve, but we are also there to  
12      have fun, and we are a community of 'ohana.

13              In regards to the recreational  
14      side of the house, we have every type of  
15      vessel you can imagine, probably ever been  
16      built, here at some point, in Hawaii over a  
17      couple of years time.

18              I've got submarines, I've got high  
19      platforms. We have all five Military services  
20      here. So, we have a fair amount of assets in  
21      and around the water at any given time, and  
22      this is in addition to just the 15,000

1 registered vessels that are documented here.

2 So, there is many, many people in  
3 the water. Waikiki, I'm sure you've seen the  
4 surfers, as well as the paddle boarders and  
5 the swimmers. Those are all recreational to  
6 us.

7 Some of our stakeholders, if you  
8 will, we do do a lot of cooperative and joint  
9 efforts with the State of Hawaii. These are  
10 just a few of the people that we pretty much  
11 work day in and day out with.

12 We also work with a lot of county  
13 agencies, especially when it comes to  
14 emergency response and restoration.

15 Some of the Federal agencies, I've  
16 already mentioned. NOAA, you'll see where we  
17 rely on you the most, here in a minute, and  
18 then we have a number of community groups,  
19 again, very much 'ohana.

20 The Industrial Advisory Board  
21 specifically focuses on our numerous  
22 commercial harbors throughout the islands.



1 Hosts, again, you've already met Mr. Bond, and  
2 Neighborhood Boards. We will go to the  
3 Neighborhood Boards. There is numerous ones  
4 on each of the islands, to address their  
5 concerns, because again, they are most often,  
6 the ones in the water that will be impacted,  
7 depending on the situation.

8 So, we will partner and cooperate  
9 and make joint efforts and do good things, all  
10 the way down to the guy that has the boat  
11 house on the water.

12 One last comment I want to make  
13 here, on the recreational side of the house,  
14 especially for the vessels.

15 Most of the vessels here are very  
16 small, and they don't have GPS. The majority  
17 of them do not. They may or may not have  
18 marine band radios. More often, they don't,  
19 and when they do have them, the tendency is  
20 because there is so much chatter on each of  
21 the channels, especially if you're in close to  
22 any of the commercial harbors, they'll turn

1       them off.

2                   So, they're not listening, once  
3       they leave. They've basically, left society  
4       in some regards, and so, it's optimal to find  
5       a means to communicate with them, and I'm  
6       hoping, through NOAA, we can find a way to do  
7       that.

8                   Here is the big one. I'm sure a  
9       lot of you would like to see, this is just a  
10      summation of the products and services that we  
11      use. I set it up for what missions we  
12      accomplish with them.

13                  The hard copy and online charts,  
14      almost every mission, has someone of us in the  
15      Coast Guard, pulling a hard copy chart,  
16      myself, personally, or online charts where  
17      we're looking up in the command center. So,  
18      on a daily basis, we're using that.

19                  The Coast Pilot, because we get a  
20      lot of visitors here, who sail in or take a  
21      boat out as part of their tour package or  
22      visiting -- simple visitors throughout the

1 year. Coast Pilot is optimal because we can  
2 pull that out and we can -- we don't have to  
3 memorize every specific of every location in  
4 the islands.

5           There are numerous harbors and  
6 waterways here in and through the islands.  
7 There is no way anybody could, and I say that  
8 because I'm probably sure somebody would come  
9 back and say, "Yes, I can memorize an entire  
10 book," but for us generally, on the Coast  
11 Guard side, we don't have all the little  
12 specifics and innuendos that go into the Coast  
13 Pilot, and so, we're pulling that out on a  
14 daily basis, as well.

15           The online weather, I want to  
16 thank you very much for the last tsunami, that  
17 was optimal in telling us when it would be  
18 safe to go out and do a short survey of the  
19 harbors, so that we could get back -- things  
20 back into order.

21           So, I very much appreciate all the  
22 weather information, the forecasting, the --

1 as well as the historic data, and I say  
2 historic data in particular because we have a  
3 lot of things that we will respond to, and  
4 we're in the moment. So, all we care about is  
5 that moment.

6 But there are times, depending on  
7 the circumstances, with loss of life, loss of  
8 property, we have to go back and investigate.  
9 So, that historical data, that we weren't  
10 really worrying about at the time, might  
11 become a causal factor for an investigation,  
12 and if we know that, and we can drill that  
13 down, then we can hopefully prevent that from  
14 ever happening again.

15 So, your historical data really  
16 does come in handy.

17 The NOAA buoys, again, for the  
18 tsunamis, the surveys are optimal, again, for  
19 the investigations, as well as for waterway  
20 construction and projects review, which I  
21 specifically do on behalf of the Captain of  
22 the Port.

1                   If I did not have your surveys,  
2                   for a lot of areas, I would not be able to  
3                   make that call on whether that new project is  
4                   introducing a hazard to navigation or not.

5                   So, those surveys are optimal,  
6                   especially with small realm of safety and  
7                   security on the waterways, when it comes to  
8                   construction and projects.

9                   And forthcoming, again, I thank  
10                  NOAA very much, for coming out early. I  
11                  understand, several years early, to do the  
12                  Tidal Current Information.

13                  We will rely on that for search  
14                  and rescue, our search patterns. If we know  
15                  which way the tide generally goes, we can do  
16                  a better grid and get to that person sooner,  
17                  and that is what we would like to do, and  
18                  that's where I can see us using that form of  
19                  data.

20                  Positioning of the aids to  
21                  navigation. If we knew that aide is being  
22                  pushed off station and how so, then we can

1 make it a more robust aid for the community,  
2 and then facilitating, always facilitating  
3 commerce, and again, I don't mean just in  
4 Hawaii. I mean throughout the Pacific.

5 Now, again, here are just a  
6 couple, and I would like to reiterate that I  
7 second everything that Mr. Stein said before  
8 me, and these are just two areas that I  
9 foresee, that we, as the Coast Guard, need to  
10 do better and hopefully, with NOAA, can  
11 succeed.

12 It's communications, and again,  
13 predicting, having real-time accuracy and  
14 after data, to complete the mission.

15 Then the last piece I have is,  
16 after going through, I did spend a number of  
17 days, after I talked to Ms. Watson, thank you,  
18 going through the NOAA's online web service  
19 data, as well as services provided.

20 One service that would be optimal  
21 for us here, especially in this particular  
22 harbor, would be PORTS, and I know it's a

1 joint effort of NOAA and other entities, but  
2 this is something that could really help us  
3 out.

4 The vessel that grounded, I'm not  
5 showing this because this -- not having this  
6 data led to the incident, although it would  
7 have helped. I'm showing this because you can  
8 see the dark water, and you can see the  
9 vessel. They don't have much give-way getting  
10 into that harbor.

11 So, our channels, a lot of our  
12 channels are cut, squared away into the  
13 harbors, through the coral. So, when you miss  
14 that channel, you've got coral, and so, that's  
15 why this picture up there, more so because,  
16 you know, if we had this type of data, or we  
17 had this system out there, we can have a  
18 better chance of hitting that channel right  
19 the first time.

20 I understand we'll partake of  
21 questions a little later, so, at this time,  
22 mahalo.

1                   CHAIR WELCH: Thank you,  
2                   Lieutenant Commander, and from the Hawaii  
3                   Office of Civil Defense, Ms. Dawn Johnson,  
4                   welcome.

5                   MS. JOHNSON: Good morning. Can  
6                   you hear me?

7                   CHAIR WELCH: Yes, ma'am.

8                   MS. JOHNSON: Aloha and good  
9                   morning. I am Dawn Johnson. I'm the State  
10                  Hazard Mitigation Officer. We're with the  
11                  State Department of Defense, State Civil  
12                  Defense Division, and thank you, services  
13                  panel and your guests, for this timely  
14                  invitation.

15                  The mission of State Civil Defense  
16                  within the State of Hawaii, as you see here,  
17                  is very clear, very simple: Prepare for and  
18                  respond to disasters and emergencies.

19                  Primarily, our mission is about  
20                  people, it's about people, and it's about  
21                  people. So, it's the prevention of loss of  
22                  life. It's the protection of bodies and



1 people, or people, and it's the protection of  
2 property, to reduce risk to property and loss  
3 of property.

4 Our mission is to ensure that  
5 we're providing for the welfare and safety of  
6 the citizenry of Hawaii, and that includes  
7 assurances that we can take the necessary and  
8 appropriate steps to keep in place, vital  
9 services and life lines, post-disaster, as  
10 well as pre-disaster, as appropriate, ensuring  
11 that there is continuity of Government post-  
12 disaster, so that essential services can  
13 continue to be provided and as my partner here  
14 to my right mentioned, Hawaii is really  
15 uniquely isolated in the Pacific. So, we are  
16 highly dependent on the import of services and  
17 goods to Hawaii, and that includes emergency  
18 services.

19 So, in the post-disaster  
20 environment, care and assistance is about  
21 three to five days out. So, our need to be  
22 able to respond, based on what we have and

1       what we know here, is really critical to our  
2       continued mission.

3               Lastly, managing the resources for  
4       response and recovery. So, each of my partners  
5       here at the panel today does overlap in their  
6       services with what we do and what we provide  
7       to the State of Hawaii, again, in the pre and  
8       post-disaster environment.

9               In Hawaii, we're really fortunate,  
10       I guess it depends on how you look at it.  
11       We've got it all. So, from wildfires to civil  
12       disorder, you name it, we have to plan for it.

13               Volcanic activity is significant,  
14       not because of just the lava flow impacts, but  
15       because of the air pollutants. So, it's a  
16       very significant threat to those who are prone  
17       to respiratory disease, for instance.

18               Asthmatics don't find a visit to  
19       the Big Island to be all too enthralling when  
20       you can't breath.

21               So, to any extent possible, and to  
22       the extent possible, State Civil Defense is

1 engaged to address each of these disasters,  
2 based on the four pillars of emergency  
3 management: Protection, prevention, recovery,  
4 and mitigation.

5 Hawaii's hazard profile, as you  
6 see here, 18 various hazards, and those  
7 familiar with our state might be surprised to  
8 hurricane at the top, because we've not been  
9 hit by too very many.

10 Flash flood, or flooding in  
11 general, is our -- in terms of frequency, our  
12 most common disaster. Tsunami, third. Again,  
13 we're uniquely isolated in the Pacific.  
14 Seismic activity off of Chile, off of the  
15 Alaskan Aleutians can potentially, and has in  
16 the past, generated tsunami on down to Hawaii.

17 When you look at the hazard  
18 profile, what you're seeing is a  
19 prioritization that is based on risk to people  
20 and property, on the basis of frequency.

21 So, in the event of hurricane, as  
22 we saw with Katrina, Hurricane Ike and Gustav,

1 all you need is one significant catastrophic  
2 event to create significant devastation. We  
3 saw it with Nicky here in Hawaii, over 20 --  
4 well, back in the 90's, I believe we're  
5 talking 1992 or 1991.

6 But again, in terms of overall  
7 hazards, State Civil Defense has a significant  
8 responsibility to you, as our visitors, and to  
9 our residents, to ensure that we can do  
10 whatever is necessary, whatever is possible,  
11 to ensure protection of property and persons.

12 Our vision, as you see, to lead  
13 the state in the prevention and protection and  
14 rapid assistance during disasters. We rely on  
15 coordination of resources and established  
16 partnerships, whether it be Federal, state,  
17 county, private non-profits, our communities,  
18 there are a lot of initiatives across the  
19 board, across each of those levels, down to  
20 faith-based organizations now being a  
21 significant part of our response efforts, as  
22 well as our preparedness efforts.

1 Strategic areas of emphasis, as  
2 you see the five there, prevention and  
3 protection, as well as partnerships  
4 highlighted, because I'll go into those  
5 further, and NOAA's role, relative to all of  
6 the above, very significant.

7 This slide presentation could be  
8 much longer and even further ongoing, but to  
9 the point, our need for NOAA's services is  
10 beyond question, in support of these strategic  
11 areas.

12 So, prevention and protection.  
13 Mitigation is a really popular term, but it's  
14 also a critical part of our mission and our  
15 vision, mitigation to reduce and eliminate,  
16 again, the risk to people, people, people, and  
17 property here in Hawaii.

18 So, some of what we rely on,  
19 whether it be preparedness, whether it be  
20 prevention, protection or mitigation, early  
21 warning systems, we have worked with the USGS  
22 to recently install two additional gauges out

1 in the North Shore, along Helemano and Opaepa  
2 streams, for instance.

3 Early warning systems are  
4 critical, not only for our coastal areas, but  
5 for our inland river marine areas, and again,  
6 most of you are familiar with Hawaii, you  
7 know, we're a very flashy state, not because  
8 we're colorful, which we are, but our  
9 geography is different than you're going to  
10 typically see on the Northern American  
11 continent.

12 We're very mountainous. We will  
13 have standing rain systems on the interior  
14 valleys, that will develop a flash system, in  
15 places we wouldn't even anticipate, and a  
16 recent case example is the heavy rains that we  
17 had two weekends ago here, perhaps over some  
18 of your stays, resulted in a flash flood that  
19 ran right down the backyard of our national  
20 flood insurance state coordinator, and she  
21 lives in a flood plain, but for the time that  
22 she's lived there, she had never seen a flash

1 flood.

2           The kids go fishing in the stream.  
3 They go swimming. They catch Hawaiian opai,  
4 we have shrimp, but it's just -- it's good  
5 fun, and you don't -- we don't typically  
6 anticipate, because we've become very  
7 complacent in our daily activities, we don't  
8 anticipate that a flash flood is going to come  
9 to where we've not typically seen it before,  
10 especially for our children.

11           So, early warning systems, again,  
12 critical, so, not only is a DART network  
13 important for us, relative to tsunami  
14 inundation and our ability to predict areas of  
15 impact and significant impact, but how are we  
16 keeping our kids out of the streams, when they  
17 shouldn't be there?

18           To mimic some of what we heard  
19 Adam mention and what Sam referenced, and in  
20 fact, even Mr. Rooney, innovation analyses,  
21 important for our State Civil Defense, because  
22 of what the product provides us.

1                   We don't have the scientists and  
2                   the engineers on our staff. However, we rely  
3                   on the products, as a result of the wave  
4                   modeling, the hurricane planning. How can  
5                   that information help us better prepare our  
6                   citizenry, to protect themselves, to stay out  
7                   of harm's way? How can we help influence land  
8                   use planning if there is a need to influence  
9                   it?

10                  What information can you help us  
11                  put our arms around so that we know where  
12                  folks should not be building, and if there are  
13                  built-ins already, how do we get those  
14                  structures, for instance, residential  
15                  structures, out of harm's way?

16                  When we're looking at some of the  
17                  programs that FEMA provides us, or has made  
18                  available to the nation, so, therefore, also  
19                  Hawaii, we have elevation opportunities, but  
20                  it's really, again, expensive in Hawaii  
21                  because we're uniquely isolated.

22                  So, the labor, very often



1 imported. The supplies and materials,  
2 imported. So, our costs are very, very steep.  
3 So, you don't see a lot of things like  
4 acquisitions, to get people up and out of  
5 harm's way, but the information is still  
6 critical, because we've got to get them out of  
7 harm's way, in the event that a hurricane is  
8 incoming or a local tsunami, generated by a  
9 local seismic event, for instance, right off  
10 of the Big Island.

11 Lastly, public awareness and  
12 education, which ties into all of the above.

13 Mitigation, my passion. As a  
14 result of the Disaster Mitigation Act of 2000,  
15 every state is required to maintain and  
16 support and drive its multi-hazard mitigation  
17 plan and a multi-hazard mitigation plan, to  
18 ensure that they can continue to receive  
19 disaster assistance, post-disaster assistance  
20 and non-disaster assistance.

21 The multi-hazard plan is required  
22 to include, as identified in the Stafford Act

1 and in the 44 Code of Federal Regulations,  
2 those four items. So, we need to be able to  
3 have identified our hazards and if there is a  
4 change in that hazard profile that you saw  
5 earlier, we have to account for that change  
6 every three years, as well as our risk and  
7 vulnerability analysis must be updated, our  
8 mitigation strategy is our plan to mitigate  
9 across the state and across all disasters, to  
10 again, get back to that people, people, people  
11 message, what can we do as a state? What  
12 actions and mitigation can we support, to  
13 ensure life protection?

14 We also work with our local county  
15 counterparts, to help them develop their own  
16 local plans, which are then incorporated by  
17 reference into the state plan.

18 As I mentioned, the updated plan  
19 ensures that the state continues to receive  
20 both the non-emergency funding, as well as  
21 public assistance.

22 C through G, you don't get unless

1     you have a state plan, we don't get, unless we  
2     have a state plan. A and B, emergency  
3     measures, those are a given. So, FEMA will  
4     come in, if we need to remove debris. FEMA  
5     will provide us that kind of assistance.

6             If we need to put in temporary  
7     measures for protection from the elements,  
8     that measure is accounted for and allowed for,  
9     even if you don't have a plan, but the rest of  
10    it, C through G is not a given.

11            So, it's critical and incumbent  
12    upon my agency, State Civil Defense, to ensure  
13    that road systems, water control facilities,  
14    parks, can resume services and be restored,  
15    based on Federal assistance, because we've got  
16    a plan for it and we can receive funding for  
17    it.

18            The plan is available online  
19    through our site, and is organized, as you  
20    see. Only eight chapters, very deceiving.  
21    It's about, printed, single-sided, we've now  
22    gone to double-sided, but single-sided, we're

1       about two and a half reams worth of paper.

2               It's horrifically cumbersome, but  
3       the plan is comprehensive. So, it does  
4       address each of the elements that not only are  
5       we required to hit, but Hawaii was one of the  
6       first states that can actually claim, having  
7       addressed in its hazard profile, climate  
8       change.

9               So, we accounted for climate  
10       change and sea level rise very early on,  
11       recognizing the risks that are inherently  
12       available to the entire state, as a result of  
13       any change in sea level.

14              Our plan elements, as you see, the  
15       identification of the hazards, a review of  
16       that risk and vulnerability, as a result of  
17       the hazards, and our mitigation strategy.

18              We work with our state and county  
19       partners, as well as local non-profits, local  
20       communities, to develop a mitigation strategy  
21       that is reasonable, that fits, that is  
22       feasible, and if a wish-list item, still

1       feasible, is subject to funding, for instance.

2               Then back to the vision slide,  
3       mention of our partnerships. There were three  
4       slides. It's a lot of, as you can see,  
5       acronyms. So, I cut out the last two slides.

6               But we rely on our partnerships to  
7       do our job better than we are expected to do,  
8       and better because the loss of just one life  
9       is more than significant.

10              So, as much as is possible for us,  
11       we do seek continued awareness of information  
12       and data available outside of our doors,  
13       because the information, even if we don't know  
14       what it is right away, is ultimately critical  
15       and important to our mission.

16              USGS, the -- I'm drawing a blank,  
17       Fed service, United States Geographical  
18       Service, I'm taking a stab.

19              We worked with them, as I  
20       mentioned, to fund to gauges, as a result of  
21       the 2008 floods. Those two gauges are  
22       installed out on the North Shore of this

1 island. The community that was impacted  
2 continually and regularly -- and FEMA spoke to  
3 its repetitive flood loss, we seeking some  
4 means by which they can -- if they can't  
5 afford to move, at least they can get out of  
6 harm's way.

7 So, in partnership with USGS, we  
8 identified the kinds of gauges that were most  
9 reasonable for the installation, and we've  
10 added about three minutes of warning time to  
11 the community. Doesn't sound like a lot. I  
12 know if I get delayed in traffic for three  
13 minutes, it's a lot of time, but you know, to  
14 take it and -- and speak to it, from a  
15 comparative sense, what's three minutes  
16 relative to a half-hour?

17 It's a difference between a life  
18 saved and a life not saved.

19 So, the community has access to  
20 the gauge information real-time, on the USGS  
21 online service water alert. So, this is an  
22 initiative that USGS took on, but made

1 available to us, as one of their partners.

2 So, the information is relevant,  
3 and the initial uses of the gauge data, for  
4 the purpose of science, also has a real role,  
5 relative to emergency management in the state,  
6 and also, across the North American -- also  
7 across the United States.

8 NOAA, I apologize, I didn't list  
9 you all first, but to Adams' mention, NTHMP,  
10 that's the National Tsunami Hazard Mitigation  
11 Program.

12 State Civil Defense is the grantee  
13 for that program, and we're all aware of the  
14 shrinking budget, the Federal budget  
15 shrinking, and it's not seeming to stop  
16 shrinking.

17 So, based on our role as grantee  
18 of the NTHMP, as well as the NEHRP, as well as  
19 Homeland Security grant assistance, and FEMA  
20 Federal Mitigation -- FEMA mitigation  
21 assistance, our commitment is to take a look  
22 this year, at a real opportunity to leverage,

1 or what the opportunities are to leverage our  
2 grants and the grants for which we serve as  
3 grantee.

4 So, NTHMP, NEHRP, the National --  
5 it's an earthquake hazards reduction program,  
6 under FEMA, we have the pre-disaster  
7 mitigation grant program. We've got the  
8 hazard mitigation grant program, the various  
9 grants under Homeland Security. How do we  
10 take all of those opportunities, and all of  
11 the products, all of the products from each of  
12 those opportunities, and manage them, such  
13 that we're not duplicating, as Mr. Rooney  
14 said, or referenced, we're not duplicating  
15 efforts that have already been not only  
16 funded, but have produced really remarkable  
17 products?

18 So, managing what we know and  
19 trying to get our arms around what we don't  
20 know, so that we can clearly leverage to the  
21 state's benefit, every opportunity, whether  
22 data collection, research opportunities or



1 otherwise, to do our jobs better.

2 As I mentioned FEMA, we work  
3 closely with FEMA and in fact, we are in joint  
4 field operations with FEMA right now, and our  
5 reduced role in your conference this week is  
6 a result of our engagement with tsunami  
7 disaster related activity.

8 So, we received the Presidential  
9 declaration this past April 8th, for the  
10 tsunami disaster, and the declaration has  
11 allowed the state to potentially receive  
12 additional mitigation assistance within this  
13 coming year, and well as receive recovery  
14 assistance for those public facilities and  
15 public agencies that suffered losses.

16 And again, partnerships with our  
17 state agencies and county agencies, too many  
18 to mention, but the point being, what you do  
19 is important to us, not because we see that  
20 you're not doing enough, but because we want  
21 more.

22 So, when we're talking about DART

1       buoys, the DART buoys are really important to  
2       us, because we need to know wave arrival  
3       times. The counties need to know who is going  
4       to sound their sirens and when.

5               We need to know if a wave is  
6       arriving in the wee hours of the morning, or  
7       during the business commute, because it  
8       affects when we evacuate, or when we -- when  
9       the counties sound their sirens for  
10      evacuation.

11             In the event of, you know, a  
12      catastrophic hurricane, we need to be able to  
13      have a comprehension for what kinds of losses  
14      will be suffered, relative to commercial  
15      structure, relative to economic impacts,  
16      because it helps us drive the kinds of  
17      assistance for which we're going to seek -- or  
18      for which we're going to submit requests.

19             Following the partnerships is just  
20      a quick preview, or review, of what we just  
21      saw here in Hawaii.

22             The images we saw in Japan were

1       horrific. We were really very fortunate in  
2       the state, to not have lost one life, for what  
3       we saw.

4               Hawaii has been really fortunate,  
5       because the last several tsunami warnings that  
6       we've been in, did not result in too much  
7       increase in wave height, or sea level.

8               We didn't have significant bores  
9       come in, until -- you know, at least within  
10      the last three, until this recent event on  
11      March 11th. So, you're looking at damage in  
12      one of our harbors, and I believe this is an  
13      assessment that was conducted with the DLNR  
14      staff then.

15              This is Kailua-Kona. If you get a  
16      chance to visit the pier area, this is in  
17      downtown Kailua, and the pier is a really  
18      critical part of community activities 24/7  
19      almost, but most certainly, year-round, it's  
20      a gathering place, and it's also very visible,  
21      when you watch the Iron Man.

22              This is down in Napo'opo'o, so,

1       you may have seen the footage of the home that  
2       was sitting in the middle of the bay. This is  
3       not that home, out of respect for the family  
4       that lost the home. They've got a really --  
5       their story is sad.

6               They built, knowing that they are  
7       in a flood way, but in Hawaii, our traditional  
8       practices do keep us next to the ocean. It's  
9       part of how many of us grow up, and my summers  
10      were spent living on the beach, because it's  
11      what we did, and it's not because we didn't  
12      have a home, but it's because it's what we do.

13             This could have been my family  
14      home, but it's not. This home is not livable  
15      and it has since, been razed, by the owners  
16      and by the small community, and they are going  
17      to rebuild.

18             This is along Ali'i Drive. So,  
19      Ali'i Drive was featured quite frequently,  
20      during the post-disaster imaging that you saw  
21      on the media networks.

22             But again, no lives lost, a lot of

1 structural damage, and what you're doing at  
2 NOAA may help us better develop our building  
3 code, so, when we look at amendments, what  
4 kinds of amendments should be introduced and  
5 incorporated and adopted?

6 When we're looking at evacuation  
7 routes, inundation modeling is very  
8 significant to us. Dr. Kwok Fai Cheung  
9 recently developed updated models for the  
10 State of Hawaii that resulted in updated  
11 evacuation maps. We're aware that teams that  
12 were recently deployed to Japan, some of whom  
13 are housed out of Hawaii, they went up as part  
14 of engineering assessment teams, and what they  
15 noticed, and spoke to, was the fact that we  
16 know the kind of water -- we can model for the  
17 kind of water that's coming in, but we might  
18 need to do a better job of modeling for the  
19 water that's coming back out, because it does  
20 wash back out, and the water that is rushing  
21 in is not just water, because as it bores on  
22 into the coastal areas, it takes with it,

1 structures, and the structures become  
2 battering rams for anything in their pathways.

3 So, you do find persons entangled  
4 in demolished structures, because they were in  
5 the structures, the structures were destroyed.  
6 They become a part of that mass of water that  
7 continues to push its way through, and  
8 eventually, pushes its way back out.

9 So, that information, again,  
10 critical to us in emergency management,  
11 because what we can do to help people, we want  
12 to know what that is, so that we can do our  
13 jobs better.

14 This is the Kona Inn along Ali'i  
15 Drive. The marlin survived, go figure, and  
16 this last shot, kind of a bitter-sweet shot.

17 So, you know, it's a beautiful --  
18 well, the angle is a bit choppy, but it's a  
19 beautiful -- the light is filtered just nice,  
20 you've got the coconut trees, but this is a  
21 few hours after the tsunami event of this  
22 March.

1                   So, you see some sunken coconut  
2                   trees at the mouth there, which actually is  
3                   not the mouth of that little inlet. It's the  
4                   sandbar that was washed through.

5                   Sorry, for the drama. Thank you  
6                   for your time.

7                   CHAIR WELCH: Okay, thank you, Ms.  
8                   Johnson. Thanks to all the panelists. I'm  
9                   sitting there, looking at a picture, I think  
10                  the table I sat at, at the Kona Inn about two  
11                  weeks before the tsunami was there.

12                  I told this to the panel before,  
13                  but my sister-in-law lives over on the Big  
14                  Island, and we were over there for her  
15                  wedding, and the yacht club that she got  
16                  married in, got completely smashed, too.

17                  So, this is -- do you have any  
18                  estimate, as to what you think the total  
19                  property damage was for the tsunami?

20                  MS. JOHNSON: You know, for  
21                  residential property, we don't have a final  
22                  figure, as yet. Our focus has been, as a

1 result of FEMA's engagement, for public  
2 structures, and primarily, boat harbors, some  
3 privately owned, and we are looking at just  
4 shy of \$10 million, relative to destroyed  
5 piers, ramps, and most certainly, the number  
6 of boats that were lost and sunken and are  
7 still under water.

8 We don't yet have a figure for,  
9 because we can't account for all of the marine  
10 vessels, yet, based on our assessments, and  
11 you may be able to speak better to it, or  
12 perhaps, Sam, you may have more updated  
13 figures.

14 MR. LEMMO: No, the \$10 million  
15 sounds correct, for the small boat harbor  
16 damage, not including the sunken boats.  
17 That's just the boating facilities.

18 CHAIR WELCH: This isn't a  
19 question for the panelists, but I wonder how  
20 much the Federal Government spends in total,  
21 annually on tsunami prediction and  
22 preparation. I bet it's not too much.



1 I'm sitting here listening to the  
2 panel. Our group had a meeting a year ago, in  
3 Providence, Rhode Island, and we had one of  
4 our equivalent panelists come in and talk  
5 about a project in a community in Southern  
6 Maine, about trying to picture how different  
7 types of water level rise would affect that  
8 particular community, exactly what you're  
9 doing up at Kailua Bay.

10 And we ought -- if you haven't  
11 seen that, we ought to get the presentation,  
12 that that gentleman made, and I think you'd be  
13 very interested in comparing how you're going  
14 about your project and they're going about  
15 their project.

16 Then we had a gentleman from out  
17 in the Cape in Massachusetts, that came in and  
18 talked to us about the near-shore bathymetry  
19 gap.

20 So, you know, the temperature is  
21 different and the topography is different, but  
22 the issues are exactly the same.

1                   So, maybe I've been on the panel  
2                   too long. Gary?

3                   MEMBER JEFFRESS: Gary Jeffress.  
4                   I've got a question for the entire panel.

5                   As I recall, the Japanese  
6                   earthquake generated tsunami, you got your  
7                   first warning on a Thursday night, about 10:00  
8                   p.m.?

9                   MS. JOHNSON: It was actually  
10                  earlier than that.

11                  MEMBER JEFFRESS: Earlier than  
12                  that?

13                  LT. CMDR. GRANQUIST: Roughly just  
14                  after eight o'clock, 8:00 p.m.

15                  MEMBER JEFFRESS: Okay, 8:00 p.m.,  
16                  and the first wave actually about 3:00 a.m. in  
17                  the morning.

18                  I was wondering if you could walk  
19                  us through what actually happens, from the  
20                  time you get your first indication that there  
21                  is a tsunami warning, and when actually, the  
22                  wave hits? That is what, seven hours you have

1       there, right?

2       What happens in that seven hours?

3                   MS. JOHNSON:  I'll go ahead and  
4       stab at it, first.

5                   From the State Civil Defense  
6       perspective, we immediately go into heightened  
7       alert, and we have teams that report into the  
8       emergency operations center, and the next  
9       several hours are then, a coordination with  
10      each of the counties, to identify sounding the  
11      sirens.

12                  So, in the case of a three o'clock  
13      wave arrival, a determination was made very  
14      early on, that waves would have to sound  
15      earlier than closer to the wave, because of  
16      the time of day.

17                  So, rather than rousing folks from  
18      their beds and having that level of  
19      disorientation affect their ability to react  
20      appropriately and properly, sirens were  
21      sounded earlier, and we started sounding, I've  
22      got to go back to the records, but -- yes, I

1 think we started sounding them shortly after  
2 ten o'clock or so, and each county will then  
3 make a determination as to exactly when they  
4 sound their sirens, based on estimated wave  
5 arrivals.

6 The State Civil Defense then works  
7 with -- again, continues to work with each of  
8 the counties, to coordinate evacuations.  
9 We've got the Governor in-house, as well as  
10 the Lieutenant Governor, and we then start  
11 bringing our Civil Defense Coordinators from  
12 each of our partner agencies, including Coast  
13 Guard.

14 Coast Guard is actually co-located  
15 with us, because they are a critical partner.  
16 We've got boats that are in harms' way and a  
17 lot of residents, who live on boats.

18 So, for our activities, we were  
19 essentially coordinating the sounding of the  
20 sirens. We are coordinating the evacuations  
21 of persons at risk, only persons at risk, so  
22 unlike hurricanes, not the entire island is in

1       jeopardy, just those who inhabit the coastal  
2       areas.

3               And each of our partner agencies,  
4       whether state or county, then take on their  
5       appropriate roles, to exercise the necessary  
6       authorities, based on what they're required to  
7       do.

8               We remained in activation, through  
9       the duration of that morning and we -- the  
10      counties issued their all-clears for  
11      terrestrial, at about 11:00, and we still had  
12      some folks on boats, who should have stayed  
13      out, but had started coming on in, and I'll  
14      just go ahead and pass that on.

15              LT. CMDR. GRANQUIST:  Sure, thank  
16      you.  For the Coast Guard, we enact various  
17      measures, especially on the commercial side,  
18      when it comes to commercial vessels, as well  
19      as facilities.

20              They already have plans in place,  
21      so with Captain of the Port Authority, we  
22      start going through a number of phases.

1                   For this particular event, we  
2                   basically, did not have the information to  
3                   know exactly what we were going to get, in the  
4                   morning, and based on the nighttime  
5                   operations, we basically cleared the ports,  
6                   battened down the hatches that we could, while  
7                   giving enough time to the personnel doing all  
8                   of that, time to get out of the area, out of  
9                   the flood zone, and we did it pretty  
10                  efficiently.

11                 We had the harbors, commercial  
12                 harbors cleared by 2:30, well before the 3:00,  
13                 and 3:30 a.m. is when the first wave -- waves  
14                 started hitting.

15                 On the recreational side of the  
16                 house, it's more of a recommendation. We do  
17                 have some authorities for special  
18                 circumstances, called special orders, under 33  
19                 CFR 160.111, where we can order vessels in and  
20                 out of harbors, depending on emergencies, such  
21                 as the tsunami was.

22                 So, we started partnering with the

1 harbor masters of the numerous -- I honestly  
2 don't know how many recreational harbors we  
3 have, but we partnered with all of them, at  
4 some point, whether it was via state or county  
5 personnel, and started giving our  
6 recommendations, that if you can get out into  
7 open waters, that's the safest, or pull your  
8 boat out of the water, and then battened down  
9 your hatches and get out of the flood zones,  
10 to protect your own life and family, and that  
11 is how we did it.

12 Then on the reverse side, we  
13 waited again, and my presentation, I thanked  
14 the weather service. We do rely on you  
15 greatly, to give us the information, so we can  
16 start making informed decisions on when we can  
17 get things back in order.

18 And we did partner up, we worked  
19 hand-in-hand with the Civil Defense, DOT  
20 Harbors and other agencies, and as the weather  
21 information was coming in, we started making  
22 plans and preparations to restore operations

1 and get things back to normal. Thank you.

2 MEMBER MILLER: What percentage of  
3 the recreational boats would you estimate left  
4 the harbors during this -- the last tsunami?  
5 I mean, just a rough estimate.

6 MR. McFARLAND: I can't tell you  
7 the percent. I'm Bob McFarland. I'm the  
8 Deputy Sector --

9 COURT REPORTER: Can you use the  
10 microphone, please?

11 CHAIR WELCH: Yes, can you come up  
12 to our microphone, Mr. McFarland?

13 MR. McFARLAND: I'm Bob McFarland.  
14 I'm the Deputy Sector Commander here in  
15 Honolulu, also marine affairs graduate at the  
16 University of Rhode Island.

17 But I have to tell you that, you  
18 know, when it comes to the recreational  
19 boaters, it's a very difficult thing to deal  
20 with, and this is why.

21 We can make those recommendations  
22 for them to leave, but I can tell you that



1 most of them probably can't operate their  
2 boats, very well, and the ones that can,  
3 probably don't leave with -- equipped to  
4 sustain a couple of days out at sea, which  
5 indicates, this is what happened, and not all  
6 of them are really good operators, and  
7 probably, more of a hazard, as they get  
8 underway, than anything else.

9 Many of these recreational  
10 boaters, particularly in some of the harbors  
11 here, are live-aboards and their boats don't  
12 even operate.

13 So, it makes it really difficult  
14 for the recreational boaters. I think in the  
15 end, we've learned that we have just have to  
16 do a better job of doing outreach.

17 From the Coast Guard's  
18 perspective, we know how to communicate with  
19 the commercial industry, extremely well. We  
20 have regular meetings with them. We have  
21 their phone numbers on our phones, all the key  
22 people and Matson or Horizon, State DOT

1 Harbors.

2 So, we can get that part rolling  
3 really, really well, and in this case, it did  
4 work out well, but I have to tell you, we know  
5 that the recreational boating community is  
6 going to be a problem.

7 You did hear Mr. Bond talk about  
8 some of the work that HOST is doing, and  
9 that's really one of focuses with HOST right  
10 now, is to try to do a better job of reaching  
11 out to them, working also with our state  
12 partners, to try to educate, along with our  
13 Coast Guard affiliate folks, and get out there  
14 and really do a better job of educating, not  
15 only in terms of safe boating, how to have a  
16 good safe boat and how to operate safely, but  
17 what are some of these issues that we have to  
18 deal with here in Hawaii, that people should  
19 be concerned about?

20 I really wish they just would have  
21 pulled their boats out of the water, but  
22 that's not the case for everybody. They can't

1 do that, you know, then you also have to  
2 remember that this was happening at two or  
3 three o'clock in the morning. Very difficult  
4 for people to kind of get their where-with-all  
5 of what's going on, and what does this mean to  
6 me? Thank you.

7 CHAIR WELCH: Susan?

8 MEMBER SHINGLEDECKER: Susan  
9 Shingledecker with Boat U.S., and first, I  
10 want to thank the Coast Guard for the amazing  
11 services you provide to all mariners,  
12 especially recreational boaters.

13 The Boat U.S. Foundation has a  
14 great relationship with the Coast Guard Office  
15 of Boating Safety, as well as the search and  
16 rescue folks. I appreciate your comments on  
17 the recreational boaters preparedness.

18 We offer a free online boating  
19 safety course. I believe it is approved in  
20 Hawaii, but I will double-check that, and we  
21 do have state specific information in that  
22 course, and could easily tailor it to include

1 tsunami preparedness for recreational boaters  
2 in Hawaii, and just pure education.

3 You need to be prepared, to be  
4 able to leave harbor at a moments notice, and  
5 it could be in the middle of the night, and  
6 you need to be prepared to be out there for a  
7 couple of days.

8 So, I will certainly take that  
9 back to our folks, that design our course, and  
10 specifically, the state specific information.

11 I had a couple of other questions,  
12 while I have the microphone.

13 With regard to your comments on  
14 communicating with recreational vessels while  
15 they're out there, we did receive a grant from  
16 the Coast Guard Office of Boating Safety, and  
17 have developed DSC, digital select calling  
18 radio tutorial, for recreational boaters.

19 For those of you that don't know,  
20 DSC radio technology is an enhanced VHF and  
21 it provides some identification information  
22 for the vessel that it is on.

1                   We do make that training available  
2                   on our website. It's also available on DVD  
3                   and I know, a number of Coast Guard Auxiliary  
4                   groups and other groups who have taken that  
5                   training out to boaters.

6                   So, I know they can sometimes be  
7                   hard to get a hold of, when they want to turn  
8                   that radio off, but at least when they do have  
9                   it on and if they are communicating with it,  
10                  we are trying to encourage them towards that  
11                  newer technology, so that it's a little bit --  
12                  we have a little more information about who is  
13                  out there.

14                  And then lastly, I have a question  
15                  for Adam. You had said, regarding tsunami  
16                  preparedness, you mentioned small boat harbors  
17                  and recreational boaters.

18                  I was wondering, I mean, I've been  
19                  astonished at the infrastructure here in  
20                  Hawaii, for recreational boaters, and as a  
21                  company that insures boats, I mean, I wouldn't  
22                  want a boat in many of these recreational

1 harbors.

2 I can see how easily recreational  
3 boats become a hazard, in any extreme weather  
4 event, because I don't know how you could  
5 properly secure boats in the harbors that I  
6 saw.

7 Did you have specific  
8 recommendations, regarding that?

9 MR. STEIN: No, I think my  
10 specific recommendation would be to support or  
11 engage in dialog with many of the local and  
12 state level and county level folks that -- and  
13 probably, through Robin Bond of the Hawaii  
14 Ocean Safety Team, do a great job of  
15 coordinating many of these stakeholders, and  
16 they have identified a set of recommendations,  
17 in which they're going to be looking for  
18 agencies and organizations, such as yourself,  
19 to support.

20 And I would also advocate, for  
21 this panel to -- again, I'm reiterating a  
22 comment I made in my presentation, but in

1 terms of tsunamis specifically, engagement  
2 with the national tsunami hazard mitigation  
3 program.

4 As Don mentioned, it's the state  
5 focal point for that program. The Federal  
6 Government does provide grant funding for  
7 states, counties, organizations such as  
8 yourself, to develop and support tsunami  
9 preparedness planning for local jurisdictions,  
10 Port Authorities, and you know, specific  
11 sectors, such as recreational boaters.

12 So, I think it is a -- also, as  
13 many programs, is an under-funded program.  
14 So, I think the partnership and leveraging  
15 opportunities between HSRP and the NTHMP could  
16 be beneficial.

17 MEMBER SHINGLEDECKER: Thank you.

18 CHAIR WELCH: Okay, Joyce, and  
19 then we'll go to Scott.

20 MEMBER MILLER: I had owned a boat  
21 in Hawaii since 1976, and in 1976, I was told,  
22 "Oh, we're due for another tsunami." The last

1       one had been in 1964, and that and hurricanes  
2       are very periodic problems, and new  
3       generations of boaters, if they've never seen  
4       a hurricane, or they've never seen the effects  
5       of tsunami, it kind of fades away, too.

6               And so, I guess one -- you know,  
7       in the state thing, it's difficult to keep  
8       something in the minds eye, as you -- you  
9       know, I finally got to evacuate my boat, some  
10      20 years later, in the tsunami a couple years  
11      ago, but because I was in, you know -- I was  
12      more in that field, I understood what a  
13      tsunami could do.

14             But the tsunami a couple of years  
15      ago, the boaters had no idea. They also had  
16      no idea of what the hurricanes could do to  
17      them. They didn't even know to take their  
18      sails down, or to take their sails off the  
19      boats.

20             CHAIR WELCH: Really?

21             MEMBER MILLER: Yes, so, I just  
22      would add that, you know, an element in the



1 state wide preparedness has to be somehow,  
2 keeping these periodic events in front of  
3 people, so they -- because they forget, and  
4 they don't know.

5 CHAIR WELCH: Thank. Scott  
6 Perkins?

7 MEMBER PERKINS: Great, thank you,  
8 Chairman. John, I want to compliment you on  
9 the four specific and spot-on recommendations  
10 you made, you know, on the close of your  
11 remark.

12 You know, the one that caught my  
13 attention the most was your recommendation  
14 number four, on data sharing with the  
15 Department of Defense, and while I've been  
16 sitting here, I kind of looked back at some of  
17 the prior panel recommendations that have been  
18 made by previous HSRP panels, and then looking  
19 back at the Hydrographic Services Improvement  
20 Act, you know, the basis that put this panel  
21 in place.

22 And one of the things in HSIA was

1       -- is in there, is maintain a national  
2       database of data with other Federal agencies.

3               Well, and I think your bullet  
4       point number four hits that on the head. We  
5       haven't accomplished the task there, right,  
6       because if you're having to use your friendly  
7       networks, right, to get that data that's  
8       already been collected by other Federal  
9       agencies, and HSIA legislation speaks to that,  
10      in a prior Hydrographic Services Review Panel  
11      put it on recommendation list, I apologize  
12      that we haven't done better on that, and I  
13      hope the Chairman and Captain Lowell will take  
14      that item number four, that John put on there,  
15      seriously.

16             I recommend that we form a  
17      subcommittee to start looking at data sharing,  
18      cooperative missions and partnering, in  
19      exploring full utilization of commercial and  
20      other sources, to help solve this problem,  
21      because the notes I've just researched while  
22      sitting here go back to 2005.

1                   So, again, my apology on that, and  
2                   I greatly appreciate the specificity, I  
3                   didn't pronounce that right, but I appreciate  
4                   the detail of your bullet points.

5                   DR. ROONEY: Yes, thank you. I  
6                   mean, I'm sure with the Department of Defense,  
7                   there are -- you know, there are real or  
8                   perceived security issues there.

9                   But you know, we hear again and  
10                  again, of duplicate surveys, and you know,  
11                  obviously, the security concerns.

12                 MEMBER PERKINS: Right, we've  
13                 solved that. There is a critical  
14                 infrastructure program out there in the  
15                 agencies, and private sector contractors can  
16                 get approval to participate in it.

17                 I mean, that problem has been  
18                 addressed. I won't say that it's been solved,  
19                 but you know, I think we can certainly make a  
20                 good recommendation for how to improve that.

21                 I have a follow up question for  
22                 Sam. You mentioned that your group is

1 responsible for the permitting of the proposed  
2 wind farms, and I'm just curious, how many new  
3 wind farms have -- you know, have been  
4 requested in this area, and then how are you  
5 approaching that task of marine spatial  
6 planning or coastal and marine spatial  
7 planning with those requests, and in the  
8 process of how you give them a thumbs-up or a  
9 thumbs-down?

10 MR. LEMMO: Thank you, that's a  
11 good question, and also, listening to these  
12 comments about the small boat harbors, because  
13 that's part of my department's function, I'm  
14 taking notes.

15 The wind farm issue is -- we have  
16 no -- at this point, we have no marine wind  
17 farms. Everything is terrestrial. There has  
18 been a couple of wind farms in operation on  
19 the Big Island of Hawaii for some time,  
20 smaller type wind farms.

21 About 10 years ago, a company came  
22 in, GE, and that all changed. Actually, it

1       was Enron and GE, and then someone else, and  
2       now, it's Kaheawa Pastures, and they built a  
3       wind farm at Maalaea, Maui, up on the ridge,  
4       a 20 mega-watt wind farm.

5               They've now, gotten approval to  
6       build another 20 or 30 mega-watts of capacity  
7       for that wind farm. There is a wind farm that  
8       has been built, or is nearing completion, up  
9       on the North Shore of this island, and there  
10      is another wind farm being planned for that  
11      area of the North Shore of Oahu, and there is  
12      another big wind farm being planned for  
13      another area on Maui.

14              So, you know, terrestrial wind  
15      farm growth is really happening here at this  
16      point.

17              With respect to marine coastal  
18      planning, I understand there is a directive in  
19      the Federal law or the Federal act, I'm not  
20      sure what the -- I can't recall what the name  
21      of it is, that has a -- directs regions to do  
22      spatial, coastal spatial planning.

1                   And I am very much interested in  
2       ocean spatial planning, and I'm trying to  
3       talk to these stakeholders as much as  
4       possible, about a process by which we could do  
5       ocean spatial planning here.

6                   I know there are people working on  
7       it, at this time. I'm not sure -- my agency  
8       is not anything in that area. It's kind of  
9       being handled by other entities, but I want to  
10      be a part of it, because we have to -- we do  
11      need to consider zones of use in our marine  
12      areas for ocean energy, whether it's wind,  
13      wave or other means, and also, for things like  
14      open ocean fish farms.

15                  We have to account for maritime  
16      activities, commercial fishing, boating, and  
17      I'm kind of -- you know, I'm an open book on  
18      that, and I'm kind of just waiting for  
19      something to happen, that we can all be part  
20      of.

21                  Someone else in the room may have  
22      something more encouraging to say about that,

1       locally.

2                   DR. ROONEY:  One thing I could  
3       add, in the summer of 2009, we were engaged,  
4       at the request of the University of Hawaii, in  
5       doing some offshore surveying for cable routes  
6       to bring wind power from the outer islands to  
7       Oahu.

8                   That was a result of stimulus  
9       money.  It was run through the Department of  
10      Business and Economic Development and Tourism,  
11      and I'm not honestly sure where that project  
12      is today, but certainly, surveys were done to  
13      optimize cable routes.

14                  CHAIR WELCH:  David, just before I  
15      recognize you, we're getting a little far  
16      afield here, but regarding the terrestrial  
17      wind farm question, does anybody know anything  
18      about that derelict wind farm down in South  
19      Point, on the Big Island -- and perhaps more  
20      important, is there anything in the permits,  
21      on all of these new wind farms, that talks  
22      about people's responsibility if for whatever

1 reason a new wind farm is discontinued?

2 MR. LEMMO: Yes, I remember that  
3 wind farm, because you go down there and half  
4 of the rotors aren't turning and there is like  
5 grease and oil leaking, you know.

6 CHAIR WELCH: They sort of look  
7 like the wind farm equivalent of Susan's small  
8 boat harbors.

9 MR. LEMMO: Yes, but and yes, he  
10 mentioned -- John mentioned the undersea  
11 cable. That's -- I didn't mention it, because  
12 that's kind of further down the road.

13 There is a big concept planned --  
14 concept -- wind farm concept being considered  
15 for Lanai and Molokai, very controversial.  
16 They would deliver energy to the island of  
17 Oahu, very controversial project.

18 You know, it's Rupert Murdoch,  
19 Lanai, Castle & Cooke, but any wind farm that  
20 gets approved now, in our state, especially if  
21 it's on public land, state land, they have to  
22 get a lease from us and they have to give us



1 securities and bonds, so that if the farm does  
2 become discontinued -- decommissioned, and if  
3 the purveyor doesn't decommission it, then we  
4 have funds from the bond to go and do it  
5 ourselves.

6 So, there is no problem with  
7 derelict wind farms being left out in the  
8 land.

9 CHAIR WELCH: Okay, well, because  
10 we sort of took a little turn away from the  
11 mandate of the panel here, but it -- David?

12 MEMBER JAY: Yes, David Jay. So,  
13 your presentation here on the effects of the  
14 tsunami, you've got me thinking -- and this is  
15 -- I guess, a question for your insights, as  
16 well as perhaps, people more knowledgeable  
17 than I am on the panel here.

18 Our West Coast situation is, we're  
19 likely to have a tsunami, not you know, eight  
20 hours later. We're likely to have the big  
21 one, as Japan did, 10 to 30 minutes after, you  
22 know, the event, and this time, mostly, in the

1 small boat harbors, commercial navigation was  
2 well prepared and got out of the way of it.

3                   How do you move, you know, 11 --  
4 I'm thinking of up on the river, 11 ships may  
5 be in the lower -- maybe more down there. You  
6 can't -- I mean, there are all sorts of  
7 problems and you can go down the coast, in San  
8 Francisco, they had a lot of problems, they've  
9 just got a whole lot of ships in there, all of  
10 them, and there are fishing boats that need to  
11 get out, too.

12                   Is anybody prepared to manage the  
13 chaos that will result, and are there plans in  
14 place to deal with this?

15                   LT. CMDR. GRANQUIST: I'll field  
16 that one. Unlike here, there are vessel  
17 traffic systems on the mainland. They have  
18 contingency plans for just such an event,  
19 especially for California, because of the  
20 earthquake, a pretense for earthquake.

21                   So, they have a set systematic  
22 roll-call, if you will, for every vessel

1       that's working in the harbor at that time.

2               So, unlike here, they're already  
3       set two, three steps ahead of us with that  
4       vessel traffic system, as well as the vessels  
5       that normally visit, especially the larger  
6       ones, that can actually fit into those  
7       harbors, and don't come here.

8               So, there are plans in place.  
9       They usually range from the larger vessels to  
10      the smaller vessels, simply because the last  
11      thing you want, if you had to weigh the  
12      option, is a fully-loaded tanker up on the  
13      ground, vice a small fishing vessel.

14              So, that's one step that they've -  
15      - actually, several steps ahead of us, than we  
16      have here.

17              MEMBER JAY: I wonder, though, you  
18      know, in terms of each individual vessel has  
19      its plan, and they may have done some  
20      prioritization, but, you know, when all of  
21      those individual vessels try to execute their  
22      plan, has that been thought out well enough,

1       that -- you know, is actually possible for  
2       them to do it, and I always go back to my home  
3       situation, the Columbia River. We don't have  
4       the vessel traffic safety commission -- or  
5       system, and we've got situations, like the bar  
6       may be closed, and the plan may be to go to  
7       sea, but if the bar is closed, is that what  
8       you want?

9                   MR. McFARLAND: Any of these large  
10       ships, it takes a lot longer than 10 minutes  
11       to get underway. They may be in the middle of  
12       cargo operations, and they just can't -- and  
13       I'll be honest with you, in a situation, if we  
14       had something that happened off the Big  
15       Island, that we had to respond to, we're all  
16       just going for high ground, and then it's a  
17       matter of figuring out what the damage is and  
18       how to fix that.

19                   So, that's kind of where we and  
20       the Coast Guard focus our efforts, in a  
21       situation like that, that it's unavoidable.  
22       We focus on what is it that we have to do to

1       reconstitute the Port, and we have a whole  
2       team that we set up, in our organization, to  
3       reconstitute the Port, to figure out what is  
4       the damage that's been done? What are the  
5       things that we need to get going, very  
6       quickly, and how do we get shipping going as  
7       soon as possible? And that includes looking  
8       at Pearl Harbor as an alternate port for us to  
9       do cargo operations, if the Port of Honolulu  
10      had been closed. And we are working with the  
11      U.S. Navy to do that, and that's a huge step,  
12      for them to say, "Yes, come on over and check  
13      out some of our facilities."

14               And now, it's not going to be  
15      easy, and we know it's going to be a huge,  
16      huge project, to try to off-load those  
17      containers one at a time, but really, that is  
18      going to be the issue, because I don't think  
19      in 10 minutes, you're going to get any -- even  
20      the barge traffic, out of here in 10 minutes.  
21      It's not going to happen.

22               So, you really can't look at, what

1 are you going to do for the Port and  
2 everything? It's really getting everybody to  
3 high ground, so, you -- everybody can survive  
4 and really deal with that situation.

5 MR. STEIN: I'd make one comment,  
6 and then -- that the 10 minutes or the 30  
7 minutes that you have, you have to respond is  
8 not the time to be making these decisions.  
9 It's beforehand, in terms of preparedness  
10 planning, which is based on qualitative and  
11 quantitative risk assessment, which in many  
12 cases, has not been completed.

13 The recent National Academies  
14 report, which looked at the U.S. Tsunami  
15 Program, was very critical for the lack of  
16 national tsunami risk assessment.

17 I would also say that I'm sure  
18 that risk assessments have not been done in  
19 many sectors, including the maritime industry.

20 There are things that port  
21 authorities in smaller harbors and others can  
22 do beforehand, in terms of not only education,

1 but the way you design and invest capital  
2 improvements in the facility, so that when  
3 that 10 or 30 minute tsunami does happen,  
4 although it's unlikely and infrequent, the  
5 destruction or the damage is -- has been  
6 reduced, because of those actions you've  
7 taken.

8 A good example, in Honolulu  
9 Harbor, is FEMA was able to get some money for  
10 some back-up generators to keep out on the  
11 water front in the case that the power goes  
12 down and they're able to still do some level  
13 of operations.

14 So, there are things like that  
15 that can be done way ahead of time to prepare  
16 for those events.

17 CHAIR WELCH: Okay, did -- yes,  
18 Lawson?

19 MEMBER BRIGHAM: Just a quick  
20 question, a very specific one for the Coast  
21 Guard.

22 The assets you have, like the buoy

1 tenders that go around, they are your  
2 responsibility. Are they outfitted with the  
3 sensors to do oceanographic observations?

4 LT. CMDR. GRANQUIST: No, they're  
5 not, but they can be.

6 MEMBER BRIGHAM: The issue for the  
7 panel, of course, is that the -- at least from  
8 my perspective -- the whole federal inventory,  
9 even the gray hulls, if we're going to have  
10 observation systems and spend a lot of money  
11 in that, we've got to take advantage of all of  
12 -- at least, the federal ships, maybe even the  
13 contract vessels, to input oceanographic  
14 information, at least surface temperature, or  
15 whatever, salinity, to the observational --  
16 the ocean observation systems, I would argue.

17 CHAIR WELCH: Okay, Michele?

18 MEMBER DIONNE: Yes, I was going  
19 to move from the sort of shipping issues, back  
20 to the conservation and near-shore gap issues,  
21 for a moment.

22 Mr. Lemmo, is there some -- I'm



1       assuming there is -- some sort of recent  
2       economic analysis of the value of the beaches  
3       to the Hawaiian economy?

4               MR. LEMMO:  There is a report  
5       completed last year -- the year before last,  
6       on the economic value of Waikiki Beach.

7               It was estimated that the beach --  
8       without the beach, we would lose possibly \$2  
9       billion a year in revenue.

10              MEMBER DIONNE:  That sort of  
11       information would be very helpful to the  
12       panel.  Certainly, I think you could connect  
13       the dots between the need for near-shore  
14       bathymetry, good information about tidal  
15       currents, your innundation modeling, and  
16       understanding sediment budgets, and where  
17       beaches are going to erode and accrete, and  
18       making a point about the economic value of the  
19       beaches, and being able to better understand  
20       how to manage them, with the added information  
21       from hydrographic services on near-shore  
22       bathymetry and tidal currents could make sort

1 of a compelling argument, and we should think  
2 about that as we deliberate about where we're  
3 going with our request to NOAA.

4 MEMBER BRIGHAM: Thank you, I  
5 appreciate that.

6 CHAIR WELCH: Gary?

7 MEMBER JEFFRESS: I believe Dawn  
8 mentioned the need for models of how to better  
9 look at what the currents are going to be  
10 associated with a tsunami, is that right?

11 MS. JOHNSON: Not as far as for  
12 the -- not as far as currents. We are  
13 interested, from the perspective of debris  
14 accumulation, such that we can identify any  
15 areas that emergency debris removal is  
16 required, but in terms of life safety and  
17 property, I believe we may be more in the  
18 purview of the Lieutenant Commander.

19 LT. CMDR. GRANQUIST: Yes, that  
20 type of data would definitely help out in the  
21 search and rescue, so that we can do better  
22 plots, to find the person sooner, as well as

1       for risk assessment, before and after, most  
2       certainly after an incident has happened.

3               So, that data is definitely  
4       premier, for us.

5               CHAIR WELCH: Gary, if I could.  
6       Lieutenant Commander, could you maybe spend  
7       just a quick moment describing how you do a  
8       matrix and a grid on the search and rescue,  
9       and then sort of say how -- so, this is how  
10      the tidal information and other types of stuff  
11      the help us do a better job --

12              LT. CMDR. GRANQUIST: Sure.

13              CHAIR WELCH: -- because I'm not  
14      sure everybody knows, how you figure out where  
15      you deploy your search and rescue assets.

16              LT. CMDR. GRANQUIST: Yes, it's  
17      all time-based, primarily, and the data  
18      supplements that.

19              So, typically for a search and  
20      rescue case, we get a call or an EPIRB goes  
21      off, and we can generally locate it, okay.

22              Depending on the time that it

1 takes for us to get there, we take that time  
2 model and we gauge it against all of the data  
3 that we have, the currents, the tides, the  
4 wind, that, depending on how much we know  
5 about this vessel, or person in the water, can  
6 get blown, moved, tossed about, and then we  
7 will take a chart and we will lay our, again,  
8 depending on how big a grid we need, which is  
9 time-based, onto that chart, and then that's  
10 where we start searching first, is where we  
11 think they're going to be when we finally get  
12 there.

13 So, tides, currents, winds,  
14 weather is optimal, because there -- you know,  
15 nothing just is stationary, especially in the  
16 waters around here in Hawaii, and we need that  
17 data to help us facilitate our search and  
18 rescue.

19 MR. McFARLAND: I can add to that  
20 a little bit. We have a computer model called  
21 SAROPS, and SAROPS takes that information that  
22 we have on currents, wind and tides and

1 incorporates that.

2                   So, when we put someone -- put --  
3 was located in this particular location,  
4 whether it's a person in the water, 20-foot  
5 vessel, 50-foot vessel, whatever it is, then  
6 SAROPS takes all that into consideration,  
7 based on the surface currents, not anything  
8 below, all the surface currents and the winds,  
9 and it will give us the probability of  
10 location, like little ducks that you throw out  
11 in the water.

12                   And then, so, we see where all  
13 those little probabilities are, and where  
14 they're clustered, that's where we start our  
15 SAR operations and do our patterns, whether  
16 we're doing papa sierra patterns or we're  
17 doing some kind of effective pattern for  
18 crossing over.

19                   So, the information that we get on  
20 currents is very important to plug into that  
21 model, and we can pull up those probabilities  
22 in a matter of minutes, to -- before the

1        aircraft is even launched, we know where we  
2        want them to search.

3                    MEMBER MILLER:    Follow-up  
4        question.    How adequate are the current models  
5        that you have at this point?

6                    The pilots and Matson were talking  
7        about the need for better current data, and so  
8        how adequate are the models that the Coast  
9        Guard has?

10                   MR. McFARLAND:    Most of the  
11        currents that we're dealing with are all the  
12        currents affected right along the coastal  
13        region.    So, I think some of the stuff that  
14        Matson might be looking at is a little bit  
15        more offshore, to kind of make it more  
16        efficient for them to make their transits.

17                   So, I think in terms of what's  
18        going on off the coastal region, it's pretty  
19        good.    But I think one of the things that we  
20        did not anticipate, and that's with the  
21        tsunami, is how long it was going to take us  
22        to open up Maui, because there was all kinds

1 of reflective action going on wrapping around  
2 all the islands, and we were opening up the  
3 Big Island and we were opening up, you know,  
4 Oahu, but there was still a lot of surging  
5 going on.

6 So, I think in terms of how I'm  
7 seeing a lot of what's going on, I'd like to  
8 see what the models were showing, why that  
9 took so long, and I would imagine a lot of it  
10 has to do with the demographics of the bottom  
11 of the sea floor.

12 CHAIR WELCH: Michele, did you  
13 have a question?

14 MEMBER DIONNE: Yes, just a point  
15 of information. Do you have real-time data  
16 streams going into those models, for surface  
17 currents? I'm sure there a several --

18 MR. McFARLAND: No, they're not  
19 real-time.

20 MEMBER DIONNE: Okay.

21 MR. McFARLAND: They're all  
22 entered in. So, that's why if we had better

1 models -real-time would be fantastic, but  
 2 that's a lot of data pulls throughout the  
 3 whole area, to try to figure out where you're  
 4 going to get those currents from, but to  
 5 update them would be --

6 MEMBER DIONNE: I mean, I was just  
 7 wondering what the data sources would be,  
 8 around Hawaii. Just buoys? There is no -- I  
 9 know there is radar that you can use for  
 10 surface currents.

11 MR. McFARLAND: Well, currently,  
 12 it's just historic data that's plugged into  
 13 the model.

14 MEMBER DIONNE: Okay.

15 CHAIR WELCH: Gary?

16 MEMBER JEFFRESS: Yes,  
 17 particularly the tsunami, there is just no  
 18 data to drive the model, because the forces  
 19 are so radical and there is no instrumentation  
 20 to measure it.

21 MR. McFARLAND: Yes.

22 MEMBER JEFFRESS: But we have this



1       seven hour opportunity to get some  
2       instrumentation in the water, if there is a  
3       tsunami on the horizon, right?

4               I work with a colleague in Florida  
5       a few years ago who got a grant from the  
6       National Science Foundation to do that very  
7       thing in the event of hurricane in Florida,  
8       and he developed some instruments that you  
9       could drop from a helicopter to measure  
10      currents and water elevation using pressure.

11             And so, he actually got funding  
12      for helicopter time and went out in front of  
13      a hurricane and dropped these things in the  
14      water, and then after the hurricane is gone,  
15      goes back in the boat, puts an acoustic signal  
16      in the water, and these things pop up. The  
17      technology is there.

18             So, we could do something in  
19      preparation for a tsunami next time, because  
20      it's just way too expensive to put in an  
21      instrument, thinking that a tsunami might  
22      happen in the next 10 years or so.

1                   So, that sort of technology could  
2                   be used to much improve modeling.

3                   DR. MARRA:   You'd get the real-  
4                   time signal that way.

5                   MEMBER JEFFRESS:   No, it stored  
6                   the data and -- and then it --

7                   MR. EDWING:   And then it is  
8                   improving the model for the next one.

9                   MEMBER JEFFRESS:   Exactly.

10                  CHAIR WELCH:   Other comments?  
11                  Yes, please.   Please identify yourself.

12                  DR. MARRA:   I'm sorry, I'm John  
13                  Marra.   I'm with NOAA Regional Climate  
14                  Services.

15                  There is work being done by  
16                  Professor Ian Robertson at the University of  
17                  Hawaii, and I think he actually is doing -- in  
18                  this context specifically, they've been funded  
19                  to go look at the Japanese event, and the  
20                  result of the significant amount of videos,  
21                  coupled with the ability to work out forces on  
22                  the structures, that is exactly what they're

1 tackling, basically, what's the current speeds  
2 and the forces in the tsunami.

3 So, it's a real -- that work is in  
4 progress.

5 CHAIR WELCH: Okay, John.

6 MR. STEIN: I could add to that,  
7 just if I could.

8 CHAIR WELCH: Please.

9 MR. STEIN: I spoke with Ian this  
10 week to let him know about this opportunity,  
11 and he has recently gotten back from Japan and  
12 he's an engineer and has identified a number  
13 of design alternatives for piers and harbors,  
14 which he feels would strongly reduce their  
15 vulnerability from some of the strong currents  
16 that they saw within -- in Japan.

17 I'm sure he'll be publishing some  
18 excellent research and some guidance for  
19 future design considerations. So, it's  
20 certainly -- there certainly is some work  
21 being done. Thanks, John.

22 CHAIR WELCH: We're going to need

1 to probably wrap this panel up, so we can stay  
2 on schedule.

3 But Lieutenant Commander, on the  
4 vessel that grounded on the coral over at  
5 Barber's Point, was that Cape Flaherty? Was  
6 that the name of the vessel?

7 LT. CMDR. GRANQUIST: No, that was  
8 the Vogetrader. It happened February 2010.

9 Basically, what happened was a  
10 number of mitigating factors, one of which was  
11 not the tide. However, the tide was in  
12 question on which way it was going, because on  
13 that side of the island, we do get cross  
14 currents, and for a vessel that large,  
15 especially with the winds, if they go in a  
16 different direction, you really have no idea  
17 where the vessel is going to head, depending  
18 on how fast you're going.

19 CHAIR WELCH: Do you have any  
20 estimate yet, as to the response costs and the  
21 remediation costs of that incident?

22 LT. CMDR. GRANQUIST: We had to

1       totally replace a buoy that they had smashed  
2       up pretty well, including the rock.

3               I do not have the cost estimates  
4       of the coral that was damaged. That's at the  
5       state level.

6               CHAIR WELCH: Okay, thank you.  
7       Any last comments or questions from the  
8       panelists -- from the HSRP folks?

9               Okay, all right, then -- yes, go  
10      ahead, please, come to the microphone.

11              DR. PARKE: My name is Michael  
12      Parke. I'm with the Pacific Island Fisheries  
13      Science Center, and I just wanted to make one  
14      comment.

15              CHAIR WELCH: Please do.

16              DR. PARKE: This follows along  
17      with John's presentation, regarding the  
18      coastal marine spatial planning.

19              A couple of months ago, there was  
20      some chatter from the Hydrographic Survey  
21      Office about removing some of the biological  
22      sampling data fields, because they do grab

1 sampling with their bathymetry sampling often,  
2 normally, and they were going to concatenate  
3 some of those fields to provide less  
4 information.

5 For the purposes of marine spatial  
6 planning and any kind of habitat analysis from  
7 a biological perspective, we would strongly  
8 encourage the panel to recommend that they do  
9 not do that, and to expand rather than  
10 concatenate any of their sampling fields,  
11 because the more information you can provide,  
12 given the fact that budgets are shrinking, the  
13 more information you can provide on the  
14 biological aspects of the surveys, it's going  
15 to enhance our whole work flow. Thank you.

16 CHAIR WELCH: Well, you've added  
17 to the vocabulary of HSRP with concatenate.

18 I do know what it means. We just  
19 haven't heard it before.

20 Are there any of the NOAA folks  
21 here, that know anything that might respond to  
22 that?

1           CAPT. LOWELL: I do know they're  
2       look into more efficient logging of the bottom  
3       samples that we take on a routine basis,  
4       during a normal hydrographic survey.

5           I don't believe there is typically  
6       a lot of biological information. Usually,  
7       it's the type of, you know, consistency and,  
8       you know, it was gravel, sand, that kind of  
9       stuff.

10          I didn't realize they were cutting  
11       outfields. I thought it was simply just a  
12       more efficient way to collect and log the data  
13       in a consistent manner, that would be useful,  
14       you know.

15          DR. PARKE: Yes, well, our concern  
16       was that in the sake of efficiency, you'd  
17       actually be losing information.

18          CAPT. LOWELL: Yes.

19          DR. PARKE: Because the fine  
20       detail is actually very important.

21          We're often stuck with using  
22       geological surveys to make the biological

1       guesses, and if you, in the name of  
2       efficiency, only give us a brief description,  
3       as opposed to a description that was three or  
4       four fields with more and more detail in each  
5       of those fields, then that provides us much  
6       less information on which to make our  
7       surrogate calculations.

8               CAPT. LOWELL: I might also mention  
9       that we have a program going on, up at UNH, at  
10      our Joint Hydrographic Center up there, where  
11      we're trying to look at putting together  
12      standardized procedures, when we collect back-  
13      scatter information, that could be run through  
14      these, you know, automated programs to extract  
15      much more high resolution differences in the  
16      bottom, and the intent was, of course, is  
17      using the bottom sample to help ground truth  
18      that back-scatter information, to really  
19      provide considerably more data to the end  
20      users.

21               Now, I don't know -- and maybe  
22      this is a question for John, and we kind of



1       talked about, you know, is one person's  
2       habitat map the same as somebody -- as another  
3       person's habitat map?

4                You know, we're not biologists.  
5       All we're trying to do is come up with a  
6       standardized way to have our employees out  
7       there collect data in a standard process, so  
8       that standard outputs can be created from  
9       them, not necessarily, meet everybody's need,  
10      but just have some baseline of information.

11               CHAIR WELCH:  If I might make a  
12      suggestion or a request, if you could  
13      summarize your concern or thoughts in a page  
14      or two, and get it to us, we can get it to the  
15      agency folks, and perhaps, you all can --

16               DR. PARKE:  No problem.

17               CHAIR WELCH:  -- can work out,  
18      directly.

19               CAPT. LOWELL:  Yes, give me your  
20      card.  But can John answer that question, or -  
21      -

22               DR. ROONEY:  Well, certainly, as

1       we talked about earlier, there is a huge  
2       difference into what benthic habitat means, to  
3       different folks, you know, inside and outside  
4       the mapping community.

5               But you know, I think Michael's  
6       point is well taken, that sedimentological  
7       information, grain size, and you know, all  
8       those standard parameters that are usually  
9       measured in trying to characterize sediment is  
10      highly useful for trying to predict biological  
11      distributions and manage our resources.

12             So, it may show up differently in  
13      different habitat mapping schemes, but you  
14      know, it's something you encourage, trying to  
15      maintain those data.

16             CHAIR WELCH: Okay, well, I think  
17      at this point, the panel would like to thank  
18      all five participants here on our hazards,  
19      management and coastal stakeholders. So,  
20      thanks very much, for your participation.

21             We look forward in being in  
22      further communication with you. If you have

1 further suggestions, please let us know, and  
2 we'll enjoy continuing the relationship.  
3 Thanks, again.

4 We have a 15 minute break  
5 scheduled, so, let's get back at 11: 15 a.m.

6 (Whereupon, the above-entitled  
7 matter went off the record 11:02 a.m. and  
8 resumed at 11:30 a.m.)

9 CHAIR WELCH: Okay, I think if we  
10 can resume? Kayla, you all okay? All right,  
11 well, we've been hearing, for the last three  
12 days, everybody's problems could be solved  
13 with a little bit better budget.

14 So, now, we're going to have Paul  
15 Bradley tell us how that can be accomplished.  
16 Paul, the floor is yours.

17 MR. BRADLEY: Hi, everyone. I  
18 think most of you know me. For the lingering  
19 other folks, I'm Paul Bradley. I work in the  
20 National Ocean Service Management and Budget  
21 Office in Policy, Planning and Analysis  
22 Division, and to tell you a little bit about

1 PPAD, we're split between some budget folks  
2 and some policy folks.

3 I'm a policy guy, but I know  
4 enough about the budget process, I guess, to  
5 be dangerous, as the saying goes.

6 And so, with a little input from  
7 my budget colleagues, I threw together just a  
8 quick Budget 101 overview.

9 From folks that were at the March  
10 orientation there was some general interest in  
11 just getting to know a little bit more about  
12 how the budget process works, from formulation  
13 within NOAA, to Congressional appropriations,  
14 and I'm sure some of you are quite familiar  
15 with that. Ed could probably go out and have  
16 coffee and come back a little while.

17 So, I think it would help the  
18 panel to just be familiar with the reality of  
19 the budget process and how the cycle works, so  
20 that recommendations you make can be tailored  
21 to that process, and understand the realities  
22 of it, and how strategically you can make

1       those recommendations to fit into the budget  
2       process and the cycle.

3               So, I also -- I don't expect to  
4       take too long on the budget and appropriations  
5       side. I also want to take an opportunity to  
6       just highlight the couple of legislative  
7       issues that are facing the Navigation Services  
8       side of NOAA, and then also some policy  
9       opportunities within the administration, and  
10      then the outreach opportunities that we're  
11      looking at for some of our key constituents,  
12      both within the administration, with Congress,  
13      and then externally, as well.

14             So, the key players for the budget  
15      process -- within NOAA, you've got line  
16      offices, and I'll show you the organizational  
17      chart, in a minute, for those who haven't seen  
18      it before -- and then there is also the NOAA  
19      Budget Office, the headquarters office that  
20      coordinates the budget for the agency.

21             NOAA is an agency within the  
22      Department of Commerce, so, the Department of

1 Commerce has their own budget office, and then  
2 they feed up into the Office of Management and  
3 Budget, which is part of the White House, and  
4 you know, their role, essentially, is to  
5 develop and submit the President's budget  
6 request, annually to Congress, amongst other  
7 jobs that they do on the management side of  
8 the house.

9 Then within Congress you have  
10 budget committees that determine the overall  
11 budget numbers for federal spending, and you  
12 have appropriations committees that develop  
13 sort of the nuts and bolts of what the budget  
14 looks like, and subcommittees that develop the  
15 detailed, line item by line item version of  
16 the federal spending plan.

17 So, as I say, here is the NOAA  
18 organizational chart. Certainly, you don't --  
19 I wouldn't expect you to be able to read  
20 what's on there, but the point is that we have  
21 these -- we have the line office, here at the  
22 bottom.

1           If you're not familiar with it,  
2       it's fisheries, ocean service, the satellite  
3       folks, oceanic and atmospheric research,  
4       weather service and then program planning and  
5       integration.

6           Then within the headquarters, you  
7       have the NOAA Budget Office. That is where  
8       they're located, and then again, that feeds up  
9       into the Department of Commerce Budget Office  
10      and OMB.

11          Feel free to interrupt me with  
12      questions.

13          So, the NOAA budget process,  
14      something that I think folks don't realize is  
15      that it starts -- you know, at least 18 months  
16      and up to two years, before the fiscal year  
17      actually starts, and it -- as Ed pointed out  
18      earlier, the fiscal year starts October 1st.

19          So, it takes a while to actually  
20      develop this and vet it through the  
21      administration and get it up to the Hill, and  
22      then for Congress to do their thing.

1                   In developing the budget, we draw  
2                   upon some of the agencies strategic documents  
3                   and things you've probably heard reference to  
4                   the next generation strategic plan, annual  
5                   guidance memorandum. These are some strategic  
6                   agency documents to guide the agencies  
7                   direction and how they're going to make  
8                   investments in -- to achieve the agencies  
9                   priorities.

10                  The budget process has three steps  
11                  to it. First is getting it up to Department  
12                  of Commerce, and they have their whack at it,  
13                  and I suppose rather than iterations, you  
14                  might call it rings of fire.

15                  The second one is Office of  
16                  Management and Budget, making presentation to  
17                  them. They have their whack at it, and then  
18                  Congress.

19                  And so, at each step, NOAA goes  
20                  up, initially, it might be the line office,  
21                  itself, National Ocean Service, going up to  
22                  the Department of Commerce and making a



1 presentation, and describe what the budget  
2 proposal includes, and then, you know, NOAA  
3 goes back up to OMB and makes a presentation,  
4 and NOAA goes to the Hill and makes a  
5 presentation and defends the budget at  
6 Congressional hearings.

7 MEMBER DIONNE: I have a question.

8 MR. BRADLEY: Yes.

9 MEMBER DIONNE: You have the  
10 President's budget in parenthesis, I mean, is  
11 that part of the -- how does that evolve? Is  
12 that separate from the Congressional budget  
13 process?

14 MR. BRADLEY: Yes, we'll get to  
15 that.

16 MEMBER DIONNE: All right.

17 MR. BRADLEY: So, Department of  
18 Commerce budget submission.

19 So, the NOAA budget starts with --  
20 in January and February, now, this is just any  
21 -- you know, any given calendar year, January  
22 and February, we start developing an out-year,

1 and we'll get to the details of how far out of  
2 the year we're developing this budget for.

3 So, in January and February, you  
4 start developing, within a line office, the  
5 budget for that line.

6 So, that National Ocean Service,  
7 we start developing our budget in January and  
8 February, and we get that ready to submit to  
9 the NOAA Budget Office.

10 In March and April, we've given  
11 the NOAA Budget Office our line -- line  
12 office, our NOS budget and they review it,  
13 they -- the NOAA Chief Financial Officer has  
14 some discussions with the Under-Secretary, the  
15 NOAA Administrator, Dr. Lubchenco, and makes  
16 recommendations as to what should be included  
17 and what shouldn't be, what can we work more  
18 on, you know, how can we tweak this, so that  
19 it matches the agencies goals?

20 And the Under-Secretary finalizes  
21 the budget decisions and it's made ready for  
22 the Department of Commerce.

1           After that, we submit -- actually,  
2           submit the budget to Department of Commerce,  
3           in the May to June time frame. DoC reviews  
4           it, analyzes it and then gives us some  
5           feedback on it, and also, a presentation for  
6           us, and they ask us a bunch of questions that  
7           we have to -- they don't give us much time to  
8           respond to.

9           So, after it goes to the  
10          Department of Commerce, we got to get it ready  
11          for the Office of Management and Budget. So,  
12          DoC has kind of refined it a bit, to make sure  
13          it matches up with the Department's goals.

14          In July, after we've gotten our  
15          feedback from the Department of Commerce, we  
16          take that input and that's called the pass-  
17          back.

18          So, any time it goes up to  
19          Department of Commerce or it goes to the  
20          Office of Management and Budget, they make  
21          some determinations as to what needs to be  
22          changed, you know, what they want to

1 eliminate, what they want to increase, maybe  
2 some things they want to add, and they call  
3 that the pass-back.

4           They give it back to us, and the  
5 line offices and NOAA, we develop some  
6 appeals. We feel that, you know, that within  
7 those cuts that they might have made, there is  
8 some really key priorities, and we want to try  
9 to have a second go at getting those included.

10           So, we work on that, and in July  
11 and August and September, and then we get the  
12 final pass-back, final determination from the  
13 Department of Commerce, and based on that,  
14 we're able to make a final budget submission  
15 ready for OMB.

16           So, the Department submits the  
17 final NOAA budget to Office of Management and  
18 Budget in mid-September, and then later on in  
19 the year, in November, we get the pass-back  
20 from Office of Management and Budget.

21           So, they've gone through and told  
22 us, okay, this is what we want to increase,

1 decrease, add, delete, or questions we would  
2 like to hear more about, why this is in there,  
3 what the plans are, and so, we get that pass-  
4 back and we review and go through the appeal  
5 process again, for Office of Management and  
6 Budget.

7 Then finally, we get -- we're  
8 working towards the part where all these  
9 budget proposals actually get to the point  
10 where they're going to be developed into a  
11 President's request and submitted to Congress.

12 So, OMB is the office that  
13 coordinates all of that, and late in the year,  
14 December, early January, we get the final  
15 pass-back from Office of Management and  
16 Budget, and we prepare the final President's  
17 request.

18 The first Monday in February is  
19 the day that the President gives his budget  
20 request o the Hill, to Congress, and then  
21 following that, it's a series of briefings,  
22 hearings, individual meetings with members, to

1 go over the agency's budget, and sometimes,  
2 they'll ask us to come up within line office  
3 by line office, and describe that budget  
4 individually, and sometimes they'll just have  
5 a hearing, where they'll call up the  
6 Department of Commerce, the head of the  
7 Department of Commerce or the head of NOAA,  
8 and have them testify in front of the  
9 committee.

10 CHAIR WELCH: So, Paul, if I could  
11 just interrupt there, and to tack onto what  
12 Paul said, and what I said yesterday.

13 So, this past February, or any  
14 February, in an ideal world, assuming  
15 everybody is adhering to schedules, the  
16 President goes public with his proposed  
17 budget, for the entire federal government, for  
18 the next fiscal year. In other words, the  
19 fiscal year that starts on October 1st.

20 So, in February, the proposed  
21 budget from the President goes public, which  
22 if Congress reacted to it, would be as of

1       October 1st, that would be the funding, and  
2       you can see from what Paul said, is that prior  
3       to that February, for about 14 months before  
4       that, somebody at some level had been working  
5       on that budget and it keeps going up to a  
6       higher level, and the higher level interacts  
7       back to the lower level and says, "No, you've  
8       got to make a change."

9               So, Navigation Services first has  
10       to convince National Ocean Service. National  
11       Ocean Service has to convince NOAA leadership.  
12       NOAA leadership has to convince the Department  
13       of Commerce. Department of Commerce has to  
14       convince Office of Management and Budget, and  
15       there is all this back and forth, for at least  
16       14 months, before you get to where the  
17       President goes out and says, "This is my  
18       budget for the coming fiscal year."

19              Now, the other thing you have to  
20       remember is the phrase, "The President  
21       proposes and the Congress disposes."

22              So, once the President sends

1 something up, all the agencies have to talk  
2 about the budget, the President's budget, like  
3 it is the budget. It is, you know, it is a  
4 fait accompli. They cannot deviate from  
5 it, or you know, say, "Well, that's what he  
6 proposes, but what we really wanted," but you  
7 know, they have to -- you know, fall in line,  
8 fall in line.

9 But the President's budget is  
10 never accepted -- no matter what President, no  
11 matter what Congress, it's never accepted by  
12 Congress in total. It's frequently not done  
13 by October 1st, but that's another story.

14 But there always are going to be  
15 adjustments up and down between what the  
16 President has proposed and what Congress  
17 eventually approves.

18 Now, the President's budget has a  
19 great deal -- remember, if you notice,  
20 Congress has only six or eight or ten months,  
21 to react to what other people have been  
22 working on for 10 or 15 months, ahead of time.



1                   So, Congress -- and Congress is  
2                   doing other stuff, too. So, Congress can't  
3                   get into the detail of the budget, the way the  
4                   Administration can.

5                   So, the President's budget, any  
6                   President's budget, by default, is going to  
7                   have a lot to do with what the final budget  
8                   is, but it's not the Holy Grail, and it's  
9                   going to be changed in some form or fashion.

10                  Once the President's budget goes  
11                  to the Hill, then all these outside folks, who  
12                  like it or dislike it, or want to add to it or  
13                  want to restrict down the funding, they're all  
14                  running up to the Hill and saying, "Tweak this  
15                  budget this way or that way." Sorry, Paul.

16                  MR. BRADLEY: No, sir, that's  
17                  good. So, then some of that, the time-line  
18                  issue, I'm going to capture in the next slide.

19                  So, the President's budget gets up  
20                  the Hill and Congress starts working on it, as  
21                  Ed was saying, and that starts with the  
22                  hearings. So, the appropriations committees,

1 the authorizing committees, they want to learn  
2 more about the details of the budget, so they  
3 can make their own determinations as to what  
4 should be funded and what shouldn't.

5 So, April to September is  
6 essentially the working window for them to get  
7 the budget done before the fiscal year starts  
8 October 1st, and as Ed hinted, often doesn't  
9 get done by October 1st, as we learned this  
10 past year.

11 So, here is the essential time-  
12 frame with three different fiscal years, and  
13 you can -- I guess I'll kind of step through  
14 it with fiscal 2011.

15 So, the fiscal year started  
16 October 2010, and ideally by then the Congress  
17 has already finished their appropriations and  
18 we have the budget for the year already set.

19 But that didn't happen. They had  
20 to continuing resolution after continuing  
21 resolution and essentially, that's just  
22 saying, "We're going to give you what you had

1 last year, and just keep spending until we  
2 make a final decision."

3 And so they worked through that  
4 process, to try to get that actually  
5 appropriated and this time, usually, I would  
6 say most years it's done by December, you  
7 know, maybe it rolls into January, but it's  
8 rare that they can't get it done by the early  
9 part of the year.

10 Well, this is a bit of an anomaly,  
11 because it wasn't until mid April that they  
12 finally said, "Okay, for the rest of fiscal  
13 year 2011, we're just going to give you a  
14 continuing resolution for the remainder of the  
15 year. We can't agree to a budget, so, we'll  
16 give you what you has last year, go out and  
17 tell us how you're going to spend it," and  
18 that's how the agency works on the -- I think  
19 we had a discussion earlier in the week about  
20 it.

21 The agency takes that number and  
22 basically comes up with a spend plan, this is

1       how we're going to spend the FY2011 budget,  
2       and it works its way back up through all the  
3       chains I just described, and it's sent to  
4       Congress, to say, "This is our spend plan,  
5       FYI."

6               Then at the same time, we're  
7       working on the FY2012 budget. So, we have,  
8       you know, the pass-back from Management and  
9       Budget Office, and preparing the President's  
10      budget, and rolling out the President's budget  
11      in February, and then it goes through the  
12      process again, for determining, you know, how  
13      much the actual appropriations act is going to  
14      include, before you actually go and execute  
15      the budget.

16             CHAIR WELCH: So, for next fiscal  
17      year, which is fiscal year '12, which  
18      supposedly starts October 1st, the President  
19      has proposed the budget. It's gone public and  
20      Congress is just now beginning to study it,  
21      have hearings on it, and for the next few  
22      months, they'll start arguing about it and

1       trying to write their own version of it.

2                   MEMBER MILLER:   Paul?

3                   MR. BRADLEY:   Yes?

4                   MEMBER MILLER:   Could you describe  
5       to the panel the consequences of continuing  
6       resolutions, what can and can't be done under  
7       those continuing resolutions?

8                   MR. BRADLEY:   I was afraid you  
9       were going to ask that.

10                   There is some wiggle room.  So,  
11       it's -- it's not the situation where you can  
12       only do what you did the year prior.

13                   But typically, when Congress sets,  
14       you know -- they finally make a determination  
15       for a year long continuing resolution, which  
16       is what they did in April, they also give some  
17       guidance, as to what, you know, you can't  
18       spend it on.

19                   And so, I think they threw a  
20       couple of things out, within that climate --  
21       climate services, maybe, and satellite  
22       programs.

1                   So, there are some things that,  
2           maybe they're controversial policy issues that  
3           folks on the Hill don't necessarily agree  
4           with, and they want to take that opportunity  
5           to say, "We like it. We don't like it."

6                   CHAIR WELCH: Earmarks.

7                   MR. BRADLEY: Earmarks, yes, well,  
8           earmarks is yet -- that is something that  
9           Congress has taken a hard stance on, not only  
10          in -- Yes, within a CR, there are -- you  
11          know, no earmarks will be funded, but also,  
12          with -- separate from that, Congress has  
13          decided that they won't -- they're not going  
14          to include any earmarks in the 2011/2012  
15          budget.

16                   I mean, in -- for the -- maybe it  
17          was a couple of years down the road, they're  
18          not going to include earmarks.

19                   But one of the continuing  
20          resolutions, they can include earmarks. So,  
21          maybe that's not the perfect answer, but I --

22                   MEMBER MILLER: You also can't

1 pass money between line offices, up until a  
2 certain time, is that correct?

3 MR. BRADLEY: Sure.

4 MR. STEIN: That is correct. That  
5 is correct, you can't.

6 MEMBER MILLER: You can't?

7 MR. STEIN: Yes, that's correct.

8 MR. EDWING: Actually, we can't  
9 even pass money between our inter-office.

10 MEMBER MILLER: You can't pass  
11 money in between --

12 MR. STEIN: Internally, yes.

13 CAPT. LOWELL: Between PPAs, I  
14 think there is a restriction on that.

15 MR. BRADLEY: So, at the same  
16 time, we're also working on the 2013 budget,  
17 with the initial phase of developing the line  
18 office budget, going through the review with  
19 NOAA Budget Office, getting feedback from  
20 Department of Commerce.

21 So, what you can see is that, you  
22 know, say, any given time, like in March or

1 April of this year, we're working on three  
2 different fiscal year budgets, trying to get  
3 Congress to finally pass the one we're  
4 operating under, introducing and getting  
5 Congress moving on the one for next year,  
6 starting in October, and then the fiscal year  
7 after that, getting it through the initial  
8 stages.

9 So, when it gets up into Congress  
10 and they have that six month period from say,  
11 you know, March to September, April to  
12 October, to do their thing, what it typically  
13 looks like is, in February, they get the  
14 President's request.

15 In the March and April time-frame,  
16 the budget committees basically set the top  
17 line number. They're going to say, "This is  
18 what all of the -- all of federal government  
19 is going to get for a budget," that  
20 discretionary spending limit that determines  
21 what everyone else is going to do within it.

22 Members are given the opportunity



1 to submit to the appropriations committee  
2 their priority requests. So, if they have a  
3 particular agency, line item or program that  
4 they are big fans of, they're constituents  
5 really support, they're given a chance to pick  
6 out, you know, a handful of those, to  
7 highlight to the appropriations committee and  
8 make an argument for increasing that  
9 particular line item budget, or maybe putting  
10 in some language to expand the program.

11 It's not necessarily a number,  
12 saying, "Fund this at -- fund the Navigation  
13 Services at 'x' amount." It could be some  
14 language that basically would give them  
15 authority, or would give them an opportunity  
16 to expand the program.

17 So, then in May, that top line  
18 spending number that the budget committee has  
19 established is basically allocated across 12  
20 different appropriations subcommittees. NOAA  
21 falls under one of those, and each house will  
22 send it, and the House of Representatives have

1 the same -- you know, the division of  
2 subcommittees, and then they get -- they get  
3 to work on the budget with the oversight  
4 hearings, okay, telling NOAA -- NOAA comes up,  
5 "Tell us what is in the budget. You know, why  
6 are you including this? Why are you not  
7 including that?"

8 Then the appropriations  
9 subcommittees start the mark-up process, where  
10 they actually take -- they take a bill and  
11 they -- again, they prepare it to include what  
12 they want to see in the agency's budget, in  
13 the final version.

14 So, the subcommittee works on it,  
15 and they have to pass it up to the full  
16 committee, before it actually goes to the  
17 floor of the Senate or the floor of the House,  
18 for final consideration later in the year.

19 And so, theoretically, all of that  
20 is done and it's passed by the House or the  
21 Senate in September, so that it can be  
22 conferenced and we get a final law by the

1       October 1st start of the year.

2               But obviously, that doesn't  
3       happen, and so we typically get into that  
4       process of continuing resolutions until the  
5       final -- ideally, it's individual, you know,  
6       every subcommittee, there is 12 subcommittees,  
7       pass their own budget for the various agencies  
8       that fall under their jurisdiction.

9               Typically, at least lately, they  
10       can't seem to get those individual  
11       appropriations bills done, so, they have to  
12       resort to the omnibus, where they basically  
13       lump everything into one big bill, that they  
14       can move in a reasonable time frame.

15               And so that happens late in the  
16       calendar year, maybe early in the following  
17       calendar year.

18               So, the -- to distinguish between  
19       two different aspects of Congress, you have  
20       authorization bills and you have  
21       appropriations bills. So, I've just kind of  
22       laid out the process for the appropriation

1 process.

2 Authorization process,  
3 essentially, it's legislation that Congress  
4 passes to establish, continue or modify  
5 federal programs. So, it will authorize  
6 spending, provide guidance on how the  
7 appropriations committee should fund these  
8 various agencies and programs. And for NOAA,  
9 we have one committee in the Senate of  
10 jurisdiction, the Senate Commerce Committee,  
11 and I'll describe that in a minute, and then  
12 three committees of jurisdiction in the House,  
13 for NOAA, that is.

14 Obviously, that's opposed to the  
15 appropriation process, which appropriations  
16 bills actually give the money, where  
17 authorization just says, "Okay, you can get  
18 appropriated 'x' amount," appropriation bills  
19 actually say, "You are going to get 'y'  
20 amount."

21 So, within the Senate, the  
22 appropriations committee, in the Senate -- the

1 subcommittee that has jurisdiction over NOAA  
2 is the Commerce, Justice and Science  
3 Subcommittee. So, I've only listed the  
4 members of the full appropriations committee  
5 that fall under the CJS subcommittee that has  
6 control over NOAA's budget.

7 So, essentially, the folks you see  
8 on the screen are the ones that have the say  
9 over what gets included in the Navigation  
10 Services budget, and so, I think the --

11 PARTICIPANT: What is the  
12 significance of the bold?

13 MR. BRADLEY: I basically, bolded  
14 some members that I think represent the folks  
15 on the panel.

16 PARTICIPANT: Thank you.

17 MR. BRADLEY: People you might --

18 PARTICIPANT: Strategic players in  
19 this?

20 MR. BRADLEY: That's right.

21 MEMBER BRIGHAM: Yes, and of  
22 course, everyone, at least the Senators I

1 know, all want to be on this committee, and  
2 Alaska wants to be on this committee. Senator  
3 Stevens was right up there at the top running  
4 this for a long time, and you see Lisa  
5 Murkowski's name. She'll ask the Arctic  
6 question, or make sure that the word 'Arctic'  
7 is somewhere in some of those line items, as  
8 well, for coastal interests, and I'm sure  
9 South Carolina gets a few points in with  
10 Graham.

11 So, I think -- huge coastal  
12 presence on the appropriations committee,  
13 appropriately.

14 MR. BRADLEY: So, because these  
15 folks actually control the -- they write the  
16 checks, they give us the money, they are the  
17 ones we want to make happy, and we go to great  
18 lengths to make sure that, you know, their  
19 questions are answered, their needs are met,  
20 their constituents are happy. Whatever they  
21 need, we try to provide. They're the ones  
22 that matter the most.

1 CHAIR WELCH: You notice, the last  
2 couple of days, there seemed to be several  
3 Mobile Bay, Alabama projects. You look over  
4 there in that right column, up towards the  
5 top.

6 MR. BRADLEY: And then on the  
7 House side, it's the subcommittee, same name,  
8 Commerce Justice and Science Subcommittee.  
9 It's a smaller group.

10 The Republicans are the majority  
11 in the House. So, they're the ones listed on  
12 the left, Congressman Wolf from Virginia is  
13 the Chair of that committee, and Congressman  
14 Fattah from Pennsylvania is the ranking  
15 member.

16 CHAIR WELCH: Now, wait a minute,  
17 Paul. Go back to the Senate committee, the  
18 Senate committee, and look at the states that  
19 are on that Senate committee, and then go to  
20 the House committee, look at the states on the  
21 House committee. And you start to figure out  
22 why, typically, usually, NOAA does better, the

1 NOAA ocean programs do better coming out of  
2 the Senate subcommittee, than they do coming  
3 out of the House subcommittee.

4 MEMBER JAY: There aren't any  
5 friends on that list.

6 CHAIR WELCH: Most of those -- in  
7 most of those districts, even on states that  
8 are coastal districts, are not coastal  
9 Congressional districts.

10 MEMBER BRIGHAM: Yes, if you go  
11 back to the Senate list again, I mean,  
12 honestly, I'm trying to pick one that's not  
13 coastal or -- Arkansas, maybe, but -- yes, so,  
14 Kentucky has got rivers, and Arkansas has  
15 rivers, and all the Great Lakes.

16 So, you've got really, ocean  
17 coastal, almost every individual there.

18 MEMBER DIONNE: Although somebody  
19 made the point earlier in this meeting, that  
20 you know, there is a lot of -- the economics  
21 of the interior of this country depends on  
22 getting goods to the coast.



1 CHAIR WELCH: But there aren't too  
2 many constituents from those interior states  
3 that are calling their offices making that  
4 point.

5 MR. BRADLEY: And that's always a  
6 challenge, making sure the people that control  
7 your budget -- I think it was actually the  
8 Lieutenant Governor that made that point --  
9 making sure the people that control your  
10 budget, understand that, so they don't get to  
11 that challenge of going and looking at a line  
12 item and saying, "Well, what is this?"

13 MEMBER DIONNE: Vector control.

14 MEMBER PERKINS: Paul, I have a  
15 question. Can you go back to the next slide,  
16 the House slide?

17 MR. BRADLEY: Yes.

18 MEMBER PERKINS: All right, so,  
19 using my example, Kevin Yoder, freshman  
20 Congressman, just came in, right?

21 MR. BRADLEY: Yes.

22 MEMBER PERKINS: From my home

1 district.

2 MR. BRADLEY: Okay.

3 MEMBER PERKINS: All right, two  
4 weeks ago, he has an open house. So, is it  
5 appropriate or is it ethically allowable,  
6 under the confines of this Hydrographic  
7 Services Review Panel, to go that open house  
8 that he had two weeks ago in D.C., and  
9 represent myself as more than just a  
10 constituent, and as a representative and a  
11 sitting member on the Hydrographic Services  
12 Review Panel?

13 Can you provide us guidance on  
14 where we draw the line between our legislative  
15 advocacy as an individual constituent, as a  
16 private business owner, as a professional  
17 practitioner, and as how we sit here with our  
18 butts in the chair today?

19 MR. BRADLEY: So, folks that were  
20 at the orientation in March got an ethics  
21 briefing from the Department of Commerce, and  
22 I was fortunate to sit in on that.

1                   My understanding, and certainly,  
2           I'm not a lawyer and don't claim any  
3           expertise, but my understanding is that when  
4           you are not attending an HSRP meeting, when  
5           you're not at these, you know, two or three  
6           days, twice a year, or on the phone when we  
7           have teleconference, you're a private citizen  
8           and you can do any -- you know, pretty much  
9           anything you would do otherwise, provided that  
10          you not use your title as an HSRP member in  
11          advocating, promoting or lobbying to the  
12          Federal Government, and I think that extends  
13          to Congress.

14                   So I would recommend that you, you  
15          know, not emphasize the fact that you're a  
16          member of this Hydrographic Services Review  
17          Panel.

18                   CHAIR WELCH: Well, let me differ  
19          from that, just a second.

20                   It's completely inappropriate to  
21          go in and say, "I'm a member of this panel and  
22          our panel recommends this."

1 MR. BRADLEY: Right.

2 CHAIR WELCH: I think it's  
3 completely appropriate to go in and say, "I'm  
4 interested in these programs. I've gotten  
5 even more -- I've gotten interested -- because  
6 of my interest in these programs, I've gotten  
7 on this Hydrographic Services Review Panel.  
8 I am a member. I'm learning a lot about this."

9 MEMBER JAY: And here is what I  
10 think.

11 CHAIR WELCH: And here is what I  
12 think, but you can't, as a -- as a private  
13 individual, but you cannot, in any way,  
14 suggest that you are representing the panel as  
15 a whole or you are presenting a panel position  
16 because the panel doesn't have a position on  
17 legislation.

18 We have recommendations to the  
19 administration, but we don't make  
20 recommendations, as a panel, to Congress. But  
21 you can do -- you know, you can say anything  
22 you want to, as a private citizen, and it is

1 a fact that you are a member of the panel.

2 And so, I think that's how I would  
3 answer the question.

4 CAPT. LOWELL: Yes, and this might  
5 be repetitive, but as a private individual,  
6 you have all those rights and responsibilities  
7 you have at any other time.

8 What you cannot do is, as a  
9 special Government employee, and you are all  
10 special Government employees at this point,  
11 specifically, as panel members and as panel  
12 members and Government employees, you cannot  
13 lobby Congress in any way. That's not your  
14 role.

15 But your role specifically as  
16 panel members is to provide advice to Dr. L,  
17 and that's the role that you're allowed to  
18 fulfill, but do not try to -- just don't do  
19 it. Don't pressure your Congressional  
20 districts based on the fact that you are a  
21 member of this panel.

22 CHAIR WELCH: Now, if you go in

1 and say to your member of Congress or your  
2 senator, "I'm a member of the Hydrographic  
3 Services Review Panel," they're going to say  
4 either, "That's nice," or, "What's that?"

5 So, in some respects, it's not  
6 going to add anymore force to your argument  
7 then if you don't mention it at all.

8 That's not true. There are a  
9 couple of folks that would know what you were  
10 talking about. Barbara Mikulski from Maryland  
11 would know what you were talking about.

12 MEMBER JAY: Maybe this is naive,  
13 having not read -- interacted with too many  
14 members of Congress, but it might also be  
15 possible that some of our representatives  
16 might actually be interested in, you know,  
17 talking to us about it and learning what we're  
18 interested in.

19 CHAIR WELCH: Of course, you know,  
20 and occasionally, we will have a Congressional  
21 staff person attend a portion of our meeting.  
22 We always try to encourage that.

1                   We've tried to get a couple of  
2                   members of Congress to come. Well, we had  
3                   Senator Mikulski at an event a couple of years  
4                   ago, up in Maryland.

5                   So, you know, if Senator Inouye  
6                   had been in Hawaii while this meeting was  
7                   going on, we would have tried to get him, but  
8                   he is back in Washington.

9                   So, you know, I don't think you  
10                  should be hesitant about, if you have the  
11                  inclination of talking to an elected  
12                  representative of -- you know, I wouldn't be  
13                  too queasy about doing it. It's -- and the  
14                  demarcation lines are not that hard to  
15                  understand, and the ethics police is not --  
16                  you know, we're not an ethics police state  
17                  yet.

18                  MR. BRADLEY: Not that too many  
19                  members of Congress will know it, but they're  
20                  the ones that actually mandated the  
21                  establishment of this panel. So, to some  
22                  extent, they should know who we are.

1                   So, aside from the Appropriations  
2                   Committee, there are also the authorizing  
3                   committees that --

4                   CHAIR WELCH: We've got about 15  
5                   minutes, just so you can judge where you are.

6                   MR. BRADLEY: Okay, so, I'll go  
7                   through this a little more quickly.

8                   On the Senate, there is the  
9                   Commerce Science, Transportation Committee,  
10                  with complete jurisdiction over NOAA.

11                  On the House, there are three  
12                  different committees with jurisdiction, the  
13                  Natural Resources Committee, the Science,  
14                  Space, and Technology Committee and the  
15                  Transportation and Infrastructure Committee.

16                  It's interesting, how the  
17                  jurisdiction falls out, because for Navigation  
18                  Services, the last of those would be the most  
19                  relevant, but that's not the committee that  
20                  has jurisdiction over the navigation services  
21                  component of NOAA. It's just the way that the  
22                  jurisdiction fell out.



1                   We typically have jurisdiction  
2                   under the Natural Resources Committee, and  
3                   both Natural Resources and the Science, Space  
4                   and Technology Committee do the bulk of the  
5                   work on NOAA for authorizing legislation.

6                   So, the main governing statutes  
7                   for the Navigation Services is something I  
8                   think most folks here should be familiar with,  
9                   at least. The Coast and Geodetic Survey Act  
10                  of 1947 and the Hydrographic Service  
11                  Improvement Act of 1998, the second of those  
12                  was amended in 2002 and 2008.

13                  Basically, it gives authority to  
14                  NOAA to do everything that falls under the  
15                  jurisdiction of these three programs, National  
16                  Geodetic Survey, OPS Coast survey and CO-OPS.

17                  The establishment of this panel  
18                  was mandated in the 2002 amendment, and that  
19                  authorization act runs through fiscal year  
20                  2012, and that doesn't mean that they're not  
21                  authorized to do what they do beyond that.  
22                  It's just nice to bring new attention to the

1 needs, with the -- a re-authorization every  
2 once in a while, and addressing maybe any new  
3 issues that have come up or new needs for the  
4 programs. And then also Title 33 of the Code  
5 of Federal Regulations, which mandates  
6 carriage of nautical charts.

7 So, some of the legislative  
8 issues. These programs really don't --  
9 compared to some of the other programs with  
10 the National Ocean Service, don't have a lot  
11 of legislative issues, legislative needs.  
12 Much of what they need, in terms of  
13 legislative authority was provided for in  
14 that Coast and Geodetic Survey Act, and the  
15 Hydrographic Services Improvement Act, or  
16 HSIA.

17 And so, there really isn't a whole  
18 lot that we try to push the Hill to give us,  
19 in terms of authority.

20 However, I would note that  
21 Hydrographic Services Improvement Act only  
22 runs through 2012. So, at some point, it

1       might be of interest to Congress to take  
2       another look at that, and then a current  
3       issue, within the current Congress,  
4       Representative Don Young from Alaska has  
5       introduce a Bill that would amend the  
6       Hydrographic Services Improvement Act to  
7       authorize funds for Hydrographic Services in  
8       the Arctic.

9               He introduced the Bill last year,  
10       and Captain Lowell went up to the Hill and  
11       testified on it and Congressman was very  
12       concerned about the level of services that  
13       NOAA was providing in the Arctic, and there is  
14       a hearing scheduled for next Thursday.

15              It seems to be an annual event  
16       that coincides with the HSRP meeting, because  
17       if I remember, you had to leave, yes, you had  
18       to leave the Providence meeting, to get down  
19       for that.

20              So, that is next Thursday, and I  
21       know Captain Lowell is very excited about  
22       going up there again, and to -- to tell the

1 fine members of the committee, about all the  
2 good stuff we're doing in the Arctic, and  
3 actually, you know, as you might have seen in  
4 the earlier presentations, there are a number  
5 of things that these programs are doing in the  
6 Arctic.

7 So, I think there is a decent, if  
8 not admirable, story to tell there. You know,  
9 it's -- I think it was made clear, it's a  
10 matter of resources.

11 So, some of the administration  
12 policy issues and opportunities that we're  
13 taking a look at, I don't want to go into a  
14 whole lot of detail, and some of this is what  
15 Kennedy mentioned earlier on in the meeting.

16 National Ocean Policy  
17 implementation, so we're developing these  
18 strategic action plans, SAPs for the nine  
19 priority objectives, and those under  
20 development within NOAA. They're going to go  
21 out for public comment soon, and that's just  
22 the initial step at how the agency and other

1 Federal agencies are going to implement the  
2 National Ocean Policy.

3 And then one of those priority  
4 objectives is coastal and marine spatial  
5 planning, and I think certainly, a good point  
6 was made during some of the presentations we  
7 heard this week, that a key component of that,  
8 you know, perhaps the most critical component  
9 is geo-spatial foundation. You really can't  
10 build this process without a strong geo-  
11 spatial foundation.

12 So, I think it's a good  
13 opportunity for these programs to make sure  
14 they're a part of that, of that process.

15 National Export Initiative, it's  
16 being administered by the -- implemented by  
17 the International Trade Administration,  
18 another part of DoC. They're looking a lot at  
19 foreign policy, foreign trade policy, but  
20 we're trying to find opportunities to provide  
21 that information infrastructure that would  
22 help move ships efficiently, load boats as

1 much as they can, so that they can increase  
2 the exports coming out of the U.S. and really  
3 work with some of the other marine  
4 transportation system Federal partners so that  
5 we do our part, to meet the goal of doubling  
6 exports by 2015.

7           The Committee on the Marine  
8 Transportation System, it's a coordinating  
9 cabinet-level committee. Most of the work is  
10 done by a coordinating Board that consists of  
11 over 25 Federal agencies, and the Chair of  
12 that Coordinating Board is rotated amongst --  
13 I can't remember, four or five agencies, one  
14 of which is NOAA, Coast Guard, Army Corp, are  
15 also rotated in the Chair position, and we  
16 currently serve as Chair.

17           And so, the opportunity there is,  
18 we serve as the Chair, we're looking for ways  
19 to promote NOAA priorities, to advance NOAA  
20 priorities through this committee.

21           Let's work towards administration  
22 goals, like the next National Export

1 Initiative, but let's also try to do something  
2 that's advancing the administration, the NOAA  
3 priorities, like working on the Arctic.

4 Harbor Maintenance Trust Fund, we  
5 had a brief discussion about that earlier in  
6 the week and the fact that there is maybe an  
7 opportunity in the future, to fund some NOAA  
8 work out of that pot of money, although it  
9 doesn't necessarily represent an opportunity  
10 for new money.

11 One of the biggest challenges, you  
12 know, in talking about getting members of  
13 Congress informed of and supportive of these  
14 programs is keeping them up to date on what  
15 they're doing, and that's, you know, a  
16 constant challenge, given the constant  
17 turnover of staff in Congress. It's really  
18 important to strengthen the existing  
19 relationships but also, to look for new  
20 opportunities.

21 We have a lot of new members of  
22 Congress. So, right now, we're trying to

1 identify some potential champions within those  
2 new members or from existing members, who  
3 within that has, you know, maybe a key port in  
4 their district, or really, has some important  
5 needs for navigation services that they're not  
6 aware of, and how can we go up there and make  
7 them more aware of what NOAA is doing within  
8 their state, within their district, so that  
9 they recognize that service and can support us  
10 when the time comes?

11 And so, some of the ways we're  
12 trying to improve the awareness and outreach  
13 within our Congressional audience is, you  
14 know, we're going to look for opportunities to  
15 get up there and just do one-on-one briefings  
16 within a member's office.

17 Say, we have over 20 ports, ports  
18 program systems, within the country. It would  
19 be nice if all 20 of those members who have  
20 those ports in those districts, know that it  
21 exists and it's there and the service that it  
22 provides.



1           That's just one example. We also  
2           could get folks out on the bay, for two out of  
3           -- Chesapeake Bay, get them out, to give them  
4           an overview of how hydrographic surveying is  
5           done, or take them for a tour of Poplar  
6           Island. That's a spot where the navigation  
7           services programs are working collaboratively  
8           with the Army Corp, to advance some habitat  
9           restoration efforts.

10           Then trying to get folks out to  
11           ports, such as the Port of New Orleans, to  
12           really show how it all comes together, getting  
13           Hill staff down there to say, "Look, you know,  
14           it's not just the coastal benefit. It goes  
15           inland," grain exports from the middle of the  
16           country, they need these services, in order to  
17           make their way down the Mississippi River and  
18           out to be exported.

19           Constituent affairs, certainly,  
20           there are a lot of people that use NOAA's  
21           navigation related products and services. It  
22           has tremendous economic impacts and we're

1       trying to tell some of those messages,  
2       strengthen the relationships with these  
3       constituent groups, explore new partnerships,  
4       especially in an era of declining federal  
5       budgets. How can we develop new partnerships  
6       to make our efforts more efficient, maximize  
7       those dollars?

8               And then, identify additional  
9       outreach opportunities, such as the Operation  
10      Sail 2012. That's a tall ship parade that's  
11      planned for Chesapeake Bay, to celebrate the  
12      Bicentennial of the War of 1812, and America's  
13      Cup in 2013 is going to be in San Francisco.

14             So, those are a couple of examples  
15      of events that might present some interesting  
16      outreach opportunities, to connect to some  
17      traditional and non-traditional user groups.

18             And then perhaps, one of the key  
19      components of outreach is the in-reach. We've  
20      got to work within NOAA, to make sure that  
21      folks are fully aware of what the navigation  
22      services are providing. It's not uncommon for

1       us to hear from folks at NOAA headquarters,  
2       being the ones in the circle, that NOAA's  
3       navigation services offices are doing great  
4       things, but you know, we don't hear enough  
5       about it.

6                You know, we're not -- we want to  
7       hear more about it, and we want to hear that  
8       good story, and so, it's kind of a combination  
9       of feeding information up the chain, so that  
10      they're made more aware of that, and also,  
11      getting outside folks, in, getting  
12      constituents in, to have meetings with these  
13      headquarter level folks to say, "I'm using  
14      these products and services and they're  
15      important to me because of these economic  
16      impacts and because they help us, you know,  
17      protect life and protect property."

18               So, I guess the major points I  
19      tried to capture here is, you know, the budget  
20      process, it's a long process. It's  
21      complicated and it involves, you know, a  
22      series of steps and hurdles that present

1 challenges for getting your priorities  
2 addressed in the budget.

3 The time line for appropriations  
4 is unpredictable and it obviously -- as the  
5 last appropriations process showed us, it's  
6 very politically charged, or has that  
7 potential, and so, there is no telling what  
8 the end product is going to be, what your  
9 budget is going to look like down the road,  
10 which means it's all the more important that  
11 you get your constituents up there, that --  
12 the folks who appreciate those programs and  
13 services are telling their members of  
14 Congress, telling the administration, "These  
15 are important to me. They should be  
16 priorities of the agency," and I hope that,  
17 you know, that you're going to recognize that.

18 There is not necessarily any major  
19 legislative issues or needs for these  
20 programs, but there is a need to make sure  
21 that folks are aware of and supportive of the  
22 programs, and how we're supporting their

1 constituents. Thanks.

2 CHAIR WELCH: Thank you, Paul.  
3 Joyce?

4 MEMBER MILLER: One question. I  
5 never can remember the name of the Act. The  
6 Integrated and Ocean and Coastal Mapping Act  
7 was under some strange omnibus name that I  
8 constantly --

9 MR. BRADLEY: Yes, it was the  
10 Omnibus Public Land Management Act.

11 MEMBER MILLER: That is what it  
12 was. So, it's just another Act that might be  
13 of interest to panel members.

14 MR. BRADLEY: Yes, that's true,  
15 and certainly, maybe I can send it around by  
16 email, just so you guys have a record of it.  
17 I'll send the Hydrographic Services  
18 Improvement Act and the Ocean Coastal Mapping  
19 Act, for you just to have as a reference.

20 I think it's important for you,  
21 you know, to recognize what Congress has  
22 mandated and what is in the statute, not only

1       that this panel does, by -- you know, through  
2       that authorization, but more broadly, for the  
3       programs.

4               CAPTAIN GLANG:  Can I just add,  
5       real quickly, on the -- if you're looking for  
6       the Ocean and Coastal Mapping Integration Act,  
7       you can go to the iocm.noaa.gov website.  It's  
8       a new website, but it's got a clear link to  
9       mandates and it will take you right to that  
10      Ocean and Coastal Mapping Integration Act.

11             MEMBER MILLER:  I spent about an  
12      hour one day, trying to figure out where I  
13      could find it.

14             CHAIR WELCH:  Kathy, on our  
15      website, on our panel website, don't we have  
16      the text of our statutes?

17             MS. WATSON:  Yes, it's all on  
18      there.

19             CHAIR WELCH:  Yes, so, we really  
20      don't need, unless people really want paper  
21      copies.

22             MR. BRADLEY:  Right, no, that's a

1 good point, yes. I'll make sure that all of  
2 that is on there.

3 CHAIR WELCH: David?

4 MEMBER JAY: David Jay. We've  
5 heard a lot of information at this meeting,  
6 and I am wondering whether say, a presentation  
7 like yours might be found on our website, and  
8 in general, what the presentations that this  
9 panel receives on our website, so that we can  
10 look them up?

11 CAPT. LOWELL: Yes, as part of the  
12 laws we're operating under, it requires us to  
13 put every presentation up and available,  
14 actually, all the Court Reporter's notes  
15 become available and a summary becomes  
16 available.

17 MS. WATSON: Yes.

18 CAPT. LOWELL: And we have records  
19 going back, pretty much to the first meeting.

20 CHAIR WELCH: Yes, if you haven't  
21 had a chance yet, and you've got 30 minutes or  
22 so, one day, you ought to just play around on

1       our panel website and see what's posted and  
2       what might be of interest to you.

3               It's pretty comprehensive, and you  
4       know, obviously, there is always a little bit  
5       of a challenge after we have a meeting like  
6       this, getting the stuff up and -- without too  
7       much of a delay.

8               But it eventually makes it, and  
9       it's pretty comprehensive, and I guess, Kathy  
10      is the keeper of the site, is that correct?

11              MS. WATSON: No, I know Lawson has  
12      a quick question. It's usually within a week,  
13      I get all the presentations uploaded. The  
14      summary information usually takes about maybe  
15      30 or 60 days to get that uploaded, but it's  
16      all public information. So, we have to  
17      provide it.

18              CHAIR WELCH: Sometimes, there are  
19      summaries of things that have to be signed off  
20      on by the Chair of the panel, and sometimes  
21      the Chair is a little bit slow, and Kathy gets  
22      frustrated.



1                   MEMBER BRIGHAM: Everybody heard  
2                   the complexity of the budget process, and I  
3                   think it becomes even more complex, when you  
4                   have cross-functional and inter-agency issues,  
5                   and I think, ocean observing is a big one.

6                   But I would say this, whatever  
7                   Arctic is, is another one, and I'd also say  
8                   that marine spatial planning is yet another  
9                   one that -- not only internal to NOAA, without  
10                  the ability to pass money between line  
11                  programs, to respond to some concept like  
12                  this, I think the committees will have, and  
13                  Congress will have a tough time, understanding  
14                  what actually people want to do, and then come  
15                  up with a budget for it, whatever the 'it' is.

16                  And so, I think we all hear about  
17                  cross-functional integrated management and all  
18                  of that stuff, and yet to they orchestrate it  
19                  through the federal budget -- it's going to be  
20                  really tough.

21                  CHAIR WELCH: You know, people  
22                  here may not give credence to what I'm about

1 to say, but Paul gave sort of a simplified  
2 version of the budget process.

3 There are some other nuances he  
4 left out. Other thoughts or questions?

5 Okay, Paul, do you know whether  
6 this hearing, they're going to have on  
7 Thursday, is going to be webcast?

8 MR. BRADLEY: I can't say for  
9 sure, but they're usually pretty good about  
10 webcast.

11 CHAIR WELCH: Yes, more and more  
12 Congressional hearings -- why don't we check  
13 that, and if we find out that it is, why don't  
14 we send out an email to everybody and give  
15 them the link and tell them how they could  
16 either watch the hearing, while you're  
17 bringing in a ship Tony.

18 CAPT. LOWELL: For anybody that is  
19 interested in the last meeting, committee  
20 meeting, I presented to -- it is available on  
21 the web, if you go to the House Resources -

22 Basically, I do believe they put

1 everything out live, and then they put it in  
2 some sort of an archive, so you can go back  
3 and watch that meeting, I mean, discussion  
4 that we had.

5 CHAIR WELCH: Okay, if there  
6 aren't any further questions, Paul, thank you  
7 very much.

8 MR. BRADLEY: Thanks, it was a  
9 pleasure.

10 CHAIR WELCH: And I guess at this  
11 point, Kathy, we're about ready for lunch, is  
12 that correct?

13 MS. WATSON: Yes.

14 CHAIR WELCH: Okay, are there any  
15 other administrative things?

16 Are people going to be able to  
17 stay, or are we going to have people that have  
18 to start departing in the first couple of  
19 hours of the afternoon?

20 Good, okay, let's eat.

21 (Whereupon, the above-entitled  
22 matter went off the record at 12:25 p.m. and

1 resumed at 1:25 p.m.)

2 CHAIR WELCH: All right, let's see  
3 if we can get ourselves organized, please.

4 Okay, thank you. We're scheduled  
5 to continue to meet until three o'clock, and  
6 I'd like to adhere to that and make sure that  
7 we can wrap it up by then. That way, people  
8 can have a little bit of time before they --  
9 the people that are departing, have to start  
10 departing.

11 Our main purpose, for the rest of  
12 the afternoon, is to talk a little bit about  
13 particularly, our impressions of this meeting  
14 and also, what our ideas are for this panel,  
15 to go forward over the next two or three  
16 meetings, particularly, strategic areas that  
17 we might want to concentrate on.

18 So, we'll talk about that, but I  
19 would like to spend just a minute or two,  
20 talking about just the mechanics, the timing  
21 of the next meeting.

22 The NOAA staff advises us that for

1 a whole host of reasons, involving the federal  
2 budget cycle and their workloads and that type  
3 of thing, the best times for our meetings,  
4 twice a year, are from mid October to  
5 Thanksgiving, roughly, for the Fall meeting,  
6 and the late April to May time frame in  
7 Spring.

8 MS. WATSON: May time frame.

9 CHAIR WELCH: So, if we could, one  
10 of our challenges is always trying to pick a  
11 week or two, that falls within those time  
12 frames, that also works for the largest number  
13 of our people, and what I thought we could do  
14 today, for the Fall meeting, and we aren't  
15 necessarily talking about a specific site of  
16 the Fall meeting, although we'll get to that  
17 in a minute, but let's just look at the  
18 calendar and what I would propose that we do  
19 is, we take it week-by-week, starting on  
20 October 17th, and if you know what your  
21 schedule is, and if you know that that week is  
22 bad for you, if you would raise your hand, and

1 Kathy can record how better or worse that  
2 particular week is.

3 So, does that make sense? You  
4 know, obviously, we're not voting on a week,  
5 and in the end, the decision about the week is  
6 not that we pick, is almost really a NOAA  
7 staff decision, they get as much input as they  
8 can from us, but they have to arrange the  
9 hotel and they have to -- but they want to  
10 know as much as what they can about our  
11 preferences, and who is able to come that  
12 particular week.

13 MS. WATSON: Ed, I'd like to  
14 mention one thing. Usually, now, of course,  
15 this meeting was like Wednesday, Thursday and  
16 Friday, three days, and we had to adjust it  
17 for some schedules.

18 But normally, we've been doing  
19 like Tuesday and Wednesday meetings, traveling  
20 on Monday to the destination, and then a full  
21 day Tuesday and Wednesday.

22 CHAIR WELCH: Right, and so, this

1 meeting was a little bit longer than the  
2 typical meeting, both because of travel  
3 distances involved and just because we had a  
4 little bit more extensive program to --  
5 particularly, in response to the large influx  
6 of new members.

7 So, the typical meeting is two  
8 days of program.

9 So, with that, if people would  
10 look at the calendar, as Virginia moves it  
11 forward, and the week of October 17th, if you  
12 know, and obviously, these are not  
13 commitments, but are those -- those of us,  
14 that that's a bad week?

15 CAPT. LOWELL: Which one are we  
16 starting on? I'm sorry.

17 CHAIR WELCH: October 17th. Okay,  
18 can you -- I mean, are you going to just  
19 record who this is --

20 MS. WATSON: Yes.

21 CHAIR WELCH: Okay, all right,  
22 October 24th, who is that -- is that a bad

1 week for people?

2 Okay, October 31st to the end of  
3 November?

4 MS. WATSON: There is like, one,  
5 two, three, four that can't make that week.

6 CHAIR WELCH: Yes?

7 MS. WATSON: Okay.

8 CHAIR WELCH: Then we go to  
9 November, the week of November 7th, is a bad  
10 week for me.

11 MS. WATSON: One, two, three,  
12 four, five, okay.

13 CHAIR WELCH: Okay, November 14th?

14 MS. WATSON: Yes.

15 CHAIR WELCH: Okay, and then the  
16 next week, I think, is Thanksgiving week. So,  
17 we wouldn't do it then.

18 MS. WATSON: So, we've got one  
19 week, October -- the week of October 24th.

20 CHAIR WELCH: Well, you know,  
21 we're never going to have a week where, I  
22 mean, everybody is there.



1                   MEMBER PERKINS: Before we pick,  
2                   some of these can be confirmed, probably --  
3                   just for example, Geo-Intelligence Conference  
4                   is in San Antonio.

5                   If we happen to pick Houston or  
6                   Galveston or something in that geographic  
7                   region then maybe I can put that back on.

8                   CHAIR WELCH: Okay, all right.  
9                   Were you just recording the number of people  
10                  that had problems or the names of the people  
11                  that had problems?

12                  MS. WATSON: No, I was just  
13                  actually, really -- those that the best week -  
14                  -

15                  CHAIR WELCH: Okay, all right.  
16                  Okay, well --

17                  MS. WATSON: That most people can  
18                  attend.

19                  CHAIR WELCH: Yes, okay, well, I  
20                  mean, I think what we need to do is, Kathy and  
21                  Captain Lowell can take that information, and  
22                  go back and sort of look at the NOAA

1 requirements, yes.

2 MEMBER BRIGHAM: Yes, you said two  
3 days, so, if we have a site visit to  
4 something, a ship or a port, and we do a  
5 strategic planning exercise, that's kind of  
6 one day.

7 So, there is one day for  
8 stakeholder engagement. Is that correct?

9 CHAIR WELCH: Yes, well, we don't  
10 always have site visits. Sometimes, we do and  
11 sometimes we don't. The site visits are nice,  
12 but sometimes, they just -- you know, if we go  
13 to a place where there -- NOAA ships,  
14 normally, and the NOAA ships are out on  
15 deployment, you know, we can't do a site  
16 visit.

17 MEMBER BRIGHAM: Well, I mean, if  
18 we go to a place that has a BLCC or a large,  
19 huge container ship, actually, modern ship --

20 CHAIR WELCH: Yes.

21 MEMBER BRIGHAM: -- we really  
22 should see that kind of thing.

1 CHAIR WELCH: Yes, no, I'm a big  
2 site visit guy, but it's not always possible.

3 MEMBER BRIGHAM: Yes, yes, sure.

4 CHAIR WELCH: Okay.

5 MEMBER MILLER: Just a question,  
6 do we always do stakeholder panels? I mean,  
7 do we ever -- I guess my question is, has the  
8 panel ever had just a meeting of more internal  
9 discussions, kind of get out --

10 CHAIR WELCH: Not in a pretty good  
11 long while.

12 MEMBER MILLER: Yes.

13 CHAIR WELCH: We've done  
14 stakeholder panels, and you know, I've -- I  
15 mean, we don't have to do it the way we've  
16 done it before, but I would tell you from my  
17 experience, and I think I speak for most of  
18 the older members, people, they enjoy the  
19 stakeholder panels. They feel like they get  
20 a lot of out of it, and you know, otherwise,  
21 we feel like we're talking to ourselves, I  
22 guess.

1                   So, but you know, it's the will of  
2                   the panel, and if we felt like we wanted a  
3                   more intense session with discussions among  
4                   ourselves, at one meeting, there is nothing to  
5                   prevent us from doing that, and it is a  
6                   collective decision.

7                   MS. WATSON: Ed, of course, you're  
8                   not limited to just a two day meeting. It's  
9                   whatever you determine. If you need a three  
10                  day meeting, your program structure, site  
11                  visit or whatever.

12                 CHAIR WELCH: Yes, now, I would  
13                 say that my observation is that most of us --  
14                 you start having three or three and a half day  
15                 meetings, it's fairly easy to break away for  
16                 a couple of days, and it starts getting  
17                 harder, when you break -- the longer you do  
18                 it.

19                 Doesn't mean you can't, but just I  
20                 think, you know, somebody that could come to  
21                 a two day meeting, might not be able to come  
22                 to a three day meeting, or would have to

1 leave.

2 Okay, well, I think that is what  
3 we'll -- yes, sure, David?

4 MEMBER JAY: Just one quick  
5 comment is, is that if we put both travel days  
6 during the week, that makes it harder, you  
7 know, that makes a two day meeting into a four  
8 day meeting, in many cases, whereas, when you  
9 put one on the weekend and then you lose some  
10 of your weekend, but it's not taking three of  
11 the work days away, you know, it's only taking  
12 three, not four.

13 CHAIR WELCH: Right, and you know,  
14 depending on where we are, sometimes we finish  
15 early enough in an afternoon, that people can  
16 get home on the -- you know, the evening of  
17 the second day of the panel.

18 MEMBER MILLER: Good luck, if you  
19 live in Hawaii.

20 CHAIR WELCH: Yes, some of us.  
21 But you have the easy travel here, Joyce.

22 MEMBER MILLER: Yes, I do.

1                   CHAIR WELCH: All right, let's  
2 talk just a minute, and again, we're not going  
3 to make decisions about this, but let's talk  
4 about some thoughts about the next two or  
5 three meeting locations.

6                   I think one thing that I think is  
7 pretty clear is that we're going to feel like  
8 Alaska is a strategic topic, and it's been a  
9 while since we've been to Alaska, so, I think  
10 from my informal discussion with a lot of you,  
11 there is a desire and a feeling and a need,  
12 and Captain Lowell sees the need for a fairly  
13 early Alaska meeting, some time within the  
14 pretty foreseeable future, and our Alaska  
15 expert Lawson tells us, it's a whole lot  
16 better in May than it is in late October.

17                  MEMBER BRIGHAM: I'm the climate  
18 expert on that one.

19                  CHAIR WELCH: Yes.

20                  MEMBER MILLER: Is late May better  
21 than early May?

22                  MEMBER BRIGHAM: Well, May is,

1       yes, but just don't come in October or  
2       November.

3                   CHAIR WELCH:   Which would lead me  
4       to the conclusion that probably, what we ought  
5       to be thinking about is an Alaska meeting, is  
6       the Spring meeting that you're -- so, if that  
7       sort of is what people are generally thinking  
8       about, then we can back up and say, "Okay,  
9       what would be likely areas or spots for a Fall  
10      meeting, this year?"

11                   And Virginia has put up a list of  
12      where we've met in the past.   Now, in some  
13      ways, this is of irrelevant, because you know,  
14      a number of these places, it's been so long  
15      since -- you know, it's been five or six or  
16      seven years, since the panel has -- since the  
17      other panels have been there, and I think, you  
18      know, just because you were there seven or  
19      eight years ago, with a different set of cast  
20      of characters, that precludes its  
21      consideration now.

22                   But Captain Lowell points out, and

1 I tend to agree, that there does seem to be  
2 sort of a dearth of presence in the Gulf of  
3 Mexico.

4 MEMBER MILLER: Two-thousand-six.

5 CHAIR WELCH: The group went to  
6 Houston, before my time on it, in 2006, and I  
7 still had to hear reports from some of the old  
8 members, about a couple of the bars that  
9 Sherri introduced to the group, and I suppose,  
10 you could say Tampa, Florida is a Gulf of  
11 Mexico port.

12 But that does seem to be an area  
13 that's lacking a little bit, and another area  
14 that you would have thought the that panel  
15 would have gone to by now, which it hasn't is  
16 LA/Long Beach.

17 We have been west, this meeting  
18 and the previous meeting. So, if we went to  
19 LA/Long Beach next meeting, that would be  
20 three meetings in a row.

21 MEMBER MILLER: Is there any  
22 chance -- I mean, I would think there would



1 still be things of interest in New Orleans,  
2 even that long after the --

3 CHAIR WELCH: Well, New Orleans,  
4 Texas locations, I mean, there are plenty of  
5 different ones, and probably every one of  
6 those has some kind of a story line, so to  
7 speak, for being there.

8 VICE CHAIR WELLSLAGER: Well, keep  
9 in mind, Adam McBride with Port Charles would  
10 be someone you could contact, if we went down  
11 to New Orleans.

12 CHAIR WELCH: Sure, yes, you know,  
13 we've got a couple of former members that we  
14 could call upon, to give us advice or help us  
15 out. I don't know whether Gary would feel  
16 like there is -- if he would be interested in  
17 hosting us in Corpus Christi, and if there is  
18 -- you know, if there are things that would  
19 compel is to go to Corpus Christi.

20 But it's always my feeling that if  
21 you go to a place, either where one of your  
22 folks is, or you know somebody, things tend to

1 go more smoothly. But what are people  
2 thinking? Yes?

3 MEMBER DIONNE: I was thinking  
4 earlier, you know, when we were talking about  
5 the Gulf oil spill earlier in the meeting,  
6 that there are probably a lot of folks down in  
7 the Louisiana area that -- stakeholders, that  
8 would, you know, be able to come to a meeting,  
9 and sort of, we could interact with them about  
10 how the nav services were a value to them,  
11 especially with reopening the region where oil  
12 was going and reopening the shrimping grounds  
13 and things like that.

14 CHAIR WELCH: Yes.

15 MEMBER DIONNE: That's just one  
16 thought.

17 CHAIR WELCH: Other thoughts?

18 MEMBER BRIGHAM: Can I ask a  
19 question about Providence, since I wasn't  
20 there?

21 Did you have a little section that  
22 talked about the wind farms and off the coast?

1 CHAIR WELCH: We did.

2 MEMBER BRIGHAM: Okay.

3 CHAIR WELCH: We did.

4 MEMBER BRIGHAM: While I'm on this  
5 panel, from a navigation standpoint, I think  
6 that is a huge, strategic issue, where you  
7 block off a hunk of the ocean, or make it  
8 complicated for navigation.

9 CHAIR WELCH: Right.

10 MEMBER BRIGHAM: And fishing.

11 CHAIR WELCH: Right.

12 MEMBER BRIGHAM: That it would be  
13 nice to go somewhere, some day, that has that  
14 as a -- like, off Norfolk, let's just say,  
15 they're planning on putting big wind farms  
16 there.

17 CHAIR WELCH: Okay.

18 MEMBER BRIGHAM: So, just of  
19 interest.

20 CHAIR WELCH: Good suggestion.

21 Paul?

22 MEMBER JEFFRESS: There is a big

1 wind farm in Corpus Christi, on the north side  
2 of the bay, on shore, and there are already,  
3 sold leases offshore in the state waters, for  
4 wind farms.

5 CHAIR WELCH: Okay.

6 MEMBER JEFFRESS: But there are  
7 none constructed.

8 CHAIR WELCH: Okay.

9 MEMBER JAY: Oregon has today, not  
10 wind farms, but there is an experimental --

11 CHAIR WELCH: And we actually have  
12 a gentleman make one -- on our stakeholder  
13 panel, when we were there, talking about that.  
14 Paul?

15 MR. BRADLEY: I was just going to  
16 follow up on Lawson's comment, about Norfolk.

17 Just anticipating this discussion,  
18 I wanted to throw out on the table, the option  
19 of Norfolk. I know it's the mid-Atlantic  
20 region, and has seen more than its fair share  
21 of attention.

22 Norfolk is a place that we've

1       gotten a lot of interest from NOAA leadership,  
2       from OMB, from Congress, just because of its  
3       proximity to D.C. and the number of assets it  
4       has down there, for navigation services.

5               It's gotten a lot of attention  
6       from folks, and I think it would make a strong  
7       meeting, just in the number of traditional and  
8       non-traditional issues down there, like  
9       coastal and marine spatial planning as it  
10      relates to offshore energy development, and  
11      some of the other -- Atlantic Hydro-Grams is  
12      down there.

13              So, and they're a lot of strong  
14      supporters we have, in the Virginia Maritime  
15      Association and Virginia port.

16              CHAIR WELCH: Right, no, I agree  
17      with those.

18              CAPT. LOWELL: Just to add onto  
19      that, perhaps not exactly Norfolk, but another  
20      thing to consider, one of the big drivers that  
21      we're going to see over the next several years  
22      is that -- is expansion of the Panama Canal,

1 and so, any of these ports that have this, you  
2 know, potential capacity change, Norfolk would  
3 be a good example.

4 That might be another reason to  
5 focus on an area.

6 MEMBER CAROTHERS: There's going  
7 to be a big Caribbean Islands project, as  
8 well.

9 CHAIR WELCH: Yes.

10 VICE CHAIR WELLSLAGER: Well, you  
11 know, since we can't get Ramon to come to one  
12 of our meetings, why don't we go down there?

13 CAPT. LOWELL: That's a good idea,  
14 and we don't have the Caribbean listed here,  
15 as a region, but we have never gone to a  
16 Caribbean, Puerto Rico/Virginia.

17 MEMBER HICKMAN: It would really  
18 be nice in October, probably.

19 CHAIR WELCH: We might interrupt  
20 going to Honolulu and going to San Juan.

21 MEMBER BRIGHAM: Yes, just for  
22 Norfolk, I mean, our largest Naval base, Naval

1       establishment, and getting more interface with  
2       DoD and having them come to meetings, kind of  
3       work with everybody?

4               CHAIR WELCH:   Yes.

5               MEMBER BRIGHAM:  More?

6               CHAIR WELCH:   Yes.

7               MEMBER BRIGHAM:  There is a place  
8       to do it, because they're a part of that whole  
9       maritime community, there.

10              CHAIR WELCH:   Yes, yes.

11              MEMBER JACOBSEN:  You just  
12       mentioned about LA/Long Beach and I definitely  
13       recommend that the Council come in there, one  
14       day, but if you hold off until next year,  
15       we'll have the 12,000 or 14,000 TEU ships  
16       coming in on a regular basis.

17              So, this year, I don't think it  
18       would be the best year for LA/Long Beach.

19              CHAIR WELCH:   Okay.

20              MEMBER JACOBSEN:  So, push that  
21       off for next year or something.

22              CHAIR WELCH:   And that gets around

1 the problem with having three west coast  
2 destinations, right in a row.

3 MEMBER JACOBSEN: That's right.

4 CHAIR WELCH: So, why don't we  
5 sort of push LA/Long Beach out a year or so,  
6 and then it sounds like to me, we're -- unless  
7 people have -- and I don't think we ought to  
8 go to lower latitude places in a row.

9 So, I guess what we have is a Gulf  
10 location, or the Norfolk/Hampton Roads  
11 location.

12 Just as a matter of preference, do  
13 people care one way or the other, for the next  
14 meeting? Do people feel strongly about one or  
15 the other?

16 MEMBER BRIGHAM: Yes, as much as  
17 I'd like to go visit Gary, I think if we go to  
18 that part of the world, it has to be New  
19 Orleans.

20 CHAIR WELCH: Okay, all right.

21 MEMBER BRIGHAM: Or Louisiana,  
22 however you look at it.



1 MEMBER MILLER: I would agree.

2 MEMBER BRIGHAM: Because of the  
3 magnitude of recent, you know, events.

4 CHAIR WELCH: Okay, all right.

5 MEMBER MILLER: Yes, I would agree  
6 that the environmental impacts of those events  
7 and understanding how -- you know, what was  
8 needed, it's sort of like the tsunami here.

9 CHAIR WELCH: Okay, any other  
10 thoughts, Norfolk versus New Orleans/Gulf?

11 MEMBER HICKMAN: I'll just put it  
12 out there. If we end up in there, you've got  
13 great bars on both places.

14 But if you end up in Corpus,  
15 whether it's now or down the road, or Houston,  
16 whether I'm still on the panel, because it  
17 will be further out than my tenure, but we'd  
18 been more than happy, at least most of us,  
19 we'll always be happy to go to the -- we have  
20 a private boat that we can run in the  
21 channels, not the whole channel, it would take  
22 too long, but show the AIS system and how we

1 work with it.

2 We are now going to the --  
3 yesterday, it was 2,800, if you didn't catch  
4 that. So, and I'm sure if you ended in Corpus  
5 or Houston -- Corpus Christi, they'll have  
6 more than we do, so, we end up funding -- we  
7 probably fund it, and that's always available.

8 CHAIR WELCH: Okay, all right.  
9 Well, do we need to be anymore -- I mean, do  
10 we need to make a decision now, or should we  
11 just take these general thoughts and have you  
12 guys go back and mull?

13 CAPT. LOWELL: Well, it sounds to  
14 me like we have a general consensus for the  
15 next meeting to be in the Gulf.

16 I think we can look at a couple of  
17 cities as options, with the prime driver being  
18 New Orleans or simply, do the Deepwater event,  
19 and then we'll just start moving from there.

20 Sometimes, we just run into  
21 logistical issues, like a big convention on  
22 the week that we wanted.

1 CHAIR WELCH: Right.

2 CAPT. LOWELL: And those won't turn  
3 up until we make a decision on where and when.  
4 So, I mean, we can start a little search on  
5 that.

6 CHAIR WELCH: Okay.

7 MEMBER HICKMAN: And also, for  
8 Kathy, for your information, since it's most  
9 likely going to be in the Gulf region, then  
10 that's the first week we had discussed, it  
11 would not be a problem.

12 CHAIR WELCH: Okay, well, why  
13 don't we have the NOAA leadership go back and  
14 take this information and get back to us with  
15 their thoughts, about what they think is  
16 achievable and practical.

17 Obviously, the sooner we can sort  
18 of narrow it down, a desired week, the better,  
19 because then we can all put it on our  
20 calendars and keep us from having to commit to  
21 something else then.

22 CAPT. LOWELL: Was there one

1 weekend that we just determined to be mostly  
2 open, at this point?

3 MS. WATSON: October 24th.

4 CAPT. LOWELL: So, if everybody  
5 would just kind of grab that.

6 MEMBER DIONNE: I did just  
7 determine that. That wouldn't work for me.

8 CAPT. LOWELL: Oh, okay.

9 MEMBER DIONNE: I just wanted to -  
10 -

11 CAPT. LOWELL: But so much for the  
12 easy answer. We'll go back to the hard  
13 issues.

14 CHAIR WELCH: Of course, we've got  
15 a couple of people that aren't here. But so,  
16 it's just extraordinary, if you can pick a  
17 week where nobody has a problem.

18 MEMBER DIONNE: I mean, certainly,  
19 I would have to make a decision, let's put it  
20 that way, about what I did that week.

21 CHAIR WELCH: Okay, all right.  
22 Okay, good, thank you, Virginia.

1                   What I would like to suggest is  
2           that we spend a few minutes, just a few, maybe  
3           10 minutes, and have the panelists,  
4           particularly the new ones, but anybody, just  
5           give us any kind of observations or thoughts  
6           about the panel or their participation or  
7           their meeting, or what they've heard this  
8           week, these last three days, and then once we  
9           sort of give each person a chance to make two  
10          or three observations, then I'll try to lead  
11          a more structured discussion, about the idea  
12          of where we go from here, what kind of  
13          strategic subjects we might choose to  
14          concentrate on, and that type of thing.

15                   So, if we could, why don't,  
16          Michele, let me start over on your side, and  
17          if you have any observations or thoughts about  
18          things, if you take two or three minutes and  
19          just -- whatever is on your mind.

20                   MEMBER DIONNE: Well, of course,  
21          I'm one of the non-traditional user  
22          representatives here, but I think I understand

1 fully, that the major core mission of nav  
2 services has to do with shipping and ports,  
3 and I guess I don't a grand idea, on how to  
4 connect that primary core mission to actually,  
5 an expansion of the work you do, which I think  
6 relates somewhat, to the aggressive mapping of  
7 the coast line, that was mentioned.

8 But somehow, you know, dealing  
9 with that near-shore gap, that was mentioned  
10 a couple of times here, but figuring out a way  
11 to do it, that doesn't cost the core mission.

12 I guess that would be the  
13 challenge. I can't see trading that, the thing  
14 that I -- you know, this coastal issue, which  
15 has lots of economic relevance and I think you  
16 can make, certainly, lots of good arguments,  
17 but you can't trade that for the core mission.

18 So, it would have to do with, I  
19 guess, finding -- figuring out a way to find  
20 other sources of funds for that.

21 You know, I guess the issues  
22 there, for me, would have to do with, you

1 know, erosion, loss of habitat, inundation of  
2 private property. The current piece would  
3 certainly fit in, both with erosion and search  
4 and rescue operations, and then at the  
5 currents, the near-shore bathymetry into  
6 circulation models, and then you can also deal  
7 with your hazard response.

8 So, I think there are lots of  
9 these alternative sort of uses, that could be  
10 served by more coastal information.

11 CHAIR WELCH: Okay, thanks. Gary?

12 MEMBER JEFFRESS: Well, I think  
13 we've hashed out, over the years, I think  
14 what's floated to the top, in my mind, is the  
15 funding for the ports.

16 I think I say this every time I  
17 come to this meeting, is that I believe the  
18 data and information, as a relative value to  
19 our nation, of the port system, is much more  
20 critical than the weather.

21 There is more economic value  
22 riding on the ports data, than there is on the

1 weather data.

2 So, I think that should be our  
3 highest priority.

4 CHAIR WELCH: Okay, why don't we -  
5 - okay, we're going to skip the Federal  
6 members, for the moment, and we'll -- yes,  
7 we'll go to Susan.

8 MEMBER SHINGLEDECKER: I don't  
9 necessarily have specific thoughts on a topic  
10 or a priority. More, I was thinking about  
11 kind of the role of the committee, and that I  
12 know I've learned a lot, in the last two and  
13 a half days.

14 But I'm still struggling with, if  
15 our role as a panel is to advise NOAA, how we  
16 best do that.

17 Kathy had mentioned many FACA's  
18 develop products, and I'm still unfamiliar  
19 with what kind of products those are, what  
20 products are most useful, to try and  
21 understand what products we might deliver, and  
22 I think it would be interesting for me to hear



1 a little bit more from the three offices, are  
2 there specific areas that you're looking for  
3 guidance on, as opposed to just generally,  
4 being open to receive whatever topics come to  
5 mind, of the panel members?

6 CHAIR WELCH: Okay, Joyce?

7 MEMBER MILLER: Yes, I would -- I  
8 guess I'd come back to my question very early  
9 on, about what the panel advises on, very  
10 similar to -- and I guess one question is, you  
11 know, we got this -- that Kathy and Roger  
12 wrote up about, you know, what it seems that  
13 the three groups are hoping to -- you know,  
14 things that we could concentrate on, and I  
15 wonder, you know, I come back to my question  
16 about, more funding, more funding.

17 Obviously, we need more surveying  
18 done, etcetera, but that's not likely to  
19 happen, and how can we, as a panel, have an  
20 impact on helping nav services to either do  
21 more or do a better job, or you know, what  
22 things might the -- you know, sort of, this is

1       very much a commercial group, to some extent,  
2       with a lot of business expertise, you know.

3               Are there things we can see, that  
4       might help nav services, as a whole, you know,  
5       be more effective, or ask the -- ask  
6       leadership to, you know, prioritize for nav  
7       services and so forth, versus kind of higher  
8       level things that maybe they can and can't do?

9               And I guess I also -- in terms of  
10      how the panel operates, I don't know, you  
11      know, whether the voting members ever just get  
12      together by themselves. It might be a  
13      different dynamic, you know, there might be  
14      different discussions, sort of how the panel  
15      runs.

16              You know, that's sort of an open  
17      question. You know, does -- you know, how does  
18      all this operate?

19              CHAIR WELCH: Well, if I can --  
20      and we don't want to concentrate on this, but  
21      as a FACA, we have certain obligations as to  
22      how we do business, and one of them is, we

1 have to do things in public.

2 MEMBER MILLER: Okay.

3 CHAIR WELCH: So, we can't have  
4 little closed sessions or rump sessions, or  
5 kick these guys out of the room, or kick the  
6 public out of the room, except under extremely  
7 limited circumstances.

8 MEMBER MILLER: Okay, yes, well,  
9 that was just a question.

10 CAPT. LOWELL: Actually, that's a  
11 good question. Let me just make it clear that  
12 we have never had a closed meeting. FACA law  
13 does allow that to occur. DoD has frequently  
14 closed meetings, simply due to the nature of  
15 it.

16 But you have to jump through hoops  
17 to get there, and I personally would not want  
18 to try to make it a closed meeting.

19 MEMBER MILLER: Okay.

20 CAPT. LOWELL: But --

21 MEMBER HICKMAN: I thought we had  
22 like where it was --

1 MR. EDWING: There's been one --

2 MEMBER HICKMAN: Where it was  
3 closed.

4 MR. EDWING: Some days have been  
5 closed.

6 MEMBER HICKMAN: Yes, I think only  
7 us.

8 MR. EDWING: Seattle was closed.

9 MEMBER HICKMAN: Seattle was  
10 closed, too?

11 CAPT. LOWELL: Well, maybe I stand  
12 corrected, then.

13 CHAIR WELCH: I think they have  
14 been --

15 MEMBER HICKMAN: I know in the  
16 past, we had where maybe the second day was  
17 closed, or the first day was closed, one or  
18 the other.

19 CHAIR WELCH: Well, I think maybe  
20 what Seattle was, and I'm -- because I was  
21 there, but wasn't officially a member yet, I  
22 think Seattle was like Silver Spring.

1                   In other words, they were -- it  
2                   was sort of a, bring the new people on and get  
3                   them up to speed, so, it wasn't -- at least  
4                   the part I was there, was not a traditional  
5                   FACA meeting.

6                   MS. DENTLER: I think most of the  
7                   first day was closed. We had the orientation  
8                   part, like what we did in March, and then we  
9                   had a meeting at the hotel, where there was  
10                  administrative stuff, where we talked -- where  
11                  we diverged a little bit on a lot of the PPB,  
12                  PBS, whatever it was called before it was --

13                  CHAIR WELCH: The what?

14                  MS. DENTLER: Whatever acronym it  
15                  was before PPAD.

16                  CHAIR WELCH: Well, there was --  
17                  we don't really need to reconstruct the  
18                  meeting.

19                  MS. DENTLER: Yes.

20                  CHAIR WELCH: The simple answer  
21                  is, traditionally, most of these have been  
22                  open, and it's not easy to close. Now, not

1 impossible, but not easy.

2 CAPT. LOWELL: But with an  
3 exception there is, the FACA group itself  
4 could constitute sub-working groups, that are  
5 not required to be open and do not have all of  
6 the administrative requirements that are  
7 placed on them, that the open body does.

8 Now, the restrictions on the  
9 working groups, number one is, they can  
10 include, or a non-restriction on the working  
11 group is, you can bring in other people to  
12 help you, if you have -- you happen to know of  
13 an expert on something. They can be part of  
14 the working group, and not be a member of the  
15 committee. That's perfectly allowable.

16 But the working groups have no  
17 authority on their own, and their only role is  
18 to report out results, to the FACA, because  
19 they could not, say, circumvent the FACA, to  
20 report out to Dr. Lubchenco on something.

21 So, there is control on that, but  
22 I believe in the terms of reference for this

1 group, you have full authority to create  
2 working groups that don't have the  
3 administrative overhead, that the open public  
4 meeting has.

5 CHAIR WELCH: Well, let me close  
6 this up, and because we don't want to get  
7 bogged down on this too much.

8 But let me ask the NOAA staff, if  
9 you guys could go back and either pull out  
10 something you've done before, or develop a  
11 short, three or four paragraphs, that you  
12 could just distribute to us, about email,  
13 about saying, "Here are the requirements for  
14 open meetings. Here are the possibilities for  
15 the closed meetings or closed working groups,"  
16 just the general parameters, and just send it  
17 around and that way, we don't have to try to  
18 answer it here, and we can make sure we've got  
19 the most current information.

20 I'm going to exercise the  
21 prerogative of the Chair and let's -- let  
22 Scott make his comments, and then we'll get to

1       you, Lawson.

2                   MEMBER PERKINS: I guess I have a  
3       question, regarding the House recommendations  
4       of the committee from prior panel members.

5                   You know, we've got 10 new members  
6       on a panel of 15, voting members, and it looks  
7       to me like there is a fairly long laundry list  
8       of recommendations from prior panels.

9                   So, I would ask for an accounting  
10      of p- you know, some sort of an assessment of  
11      those -- you know, have we accomplished those?  
12      Have we invalidated those, or do we have left  
13      over business from prior panel members, that  
14      we need to be respectful of, and address those  
15      issues, or at least give them due  
16      consideration?

17                   Would that -- you know, I think,  
18      we serve Dr. Lubchenco, as a panel, and Dr.  
19      Lubchenco serves, you know, the Department of  
20      Commerce, and the Secretary of Commerce serves  
21      the President, and then going back to where  
22      this began for me, a month ago, with the



1 briefing from Ms. Spring, and that challenge  
2 to look for what we can do as a panel, to help  
3 win the future through bold improvements and  
4 innovation and infrastructure and education.

5           So, I would -- you know, we've  
6 talked a lot down in the grassroots level, and  
7 going specifically to products, you know, like  
8 the PORTS system, right, and I guess I would  
9 ask that at least for the launch of what this  
10 panel is undertaking, for those 10 of us that  
11 just came on, for either a three or a four  
12 year term, I think it would be wise to look at  
13 it, at a bit more macro level, before we get  
14 into the specific grassroots.

15           You know, recommendations on the  
16 PORTS, and it appears that that system is well  
17 defined, working exceptionally well, where  
18 it's been deployed. I don't think that is a  
19 recommendation from the panel.

20           I mean, that looks like a program  
21 that works, spot-on and accomplishes what it  
22 needs to do.

1                   MEMBER JEFFRESS:  It's the  
2                   maintenance and the funding of it, which is  
3                   always up in the air.

4                   MEMBER PERKINS:  Yes, I mean, I  
5                   think we need to advocate for it, and we need  
6                   to be informational about it, and we need to  
7                   support it.

8                   But I don't think -- I guess, I'm  
9                   just using that as an example, and it's  
10                  certainly not meaning to critique your  
11                  recommendation here, in any way.

12                  I'm just saying, that looks like a  
13                  program that's in place and works, and I guess  
14                  my understanding of the mission of the panel,  
15                  was to look at this at a bit more macro level,  
16                  and programmatically, and try to guide and  
17                  provide recommendation.

18                  MEMBER JACOBSEN:  Well, just with  
19                  the PORTS system, it's kind of being held  
20                  together with bailing wire and chewing gum.  
21                  I mean, it really needs to be formalized with  
22                  that Federal oversight, and funding for

1 maintenance.

2                   So, I think that's our biggest  
3 concern, is a lot of states in our area have  
4 dropped out for funding, and the equipment is  
5 just dying on the vine.

6                   So, that's why we keep bringing it  
7 up, keep pushing for it, because it is  
8 critical for what we do.

9                   MEMBER HICKMAN: And we also  
10 stated that the PORTS program -- there are  
11 ports that want it, and don't have it. So, it  
12 might be a functioning entity where it is, but  
13 there is places that don't have it, and can't  
14 get it at this moment, because of funding.

15                   There is places that have it, and  
16 it's being pulled because operation and  
17 maintenance isn't being paid for. Ask Gary,  
18 that is what he's doing when he goes home,  
19 which is -- it's sad, because the money we  
20 spent to put it in place, now, money is being  
21 spent to take it out of place, because nobody  
22 is paying for the operation and maintenance of

1       it.

2                   But our big part of that was that  
3       the PORTS program should be the backbone to  
4       the Integrated Ocean Observation System. We  
5       shouldn't be doing it out here, if we're not  
6       doing it here.

7                   So, that's where that all came  
8       from, for the PORTS program.

9                   MEMBER PERKINS: Thank you for the  
10       background on that. That is helpful.

11                   I think the baseline macro level  
12       there, is the -- is a geodesy that it takes to  
13       support that mission, the near-shore bathy  
14       mission and so many other things that we've  
15       talked about here, right?

16                   And so, I guess what I would ask  
17       is that we consider putting on the table, is  
18       a little more emphasis on supporting that  
19       baseline, whether it's GRAV-D, whether it's  
20       VDatum, you know, we have to have that  
21       underlying consistent baseline geodesy in  
22       place, or we can't provide safe travel into

1 the harbors. We can't do climate change and  
2 sea level rise measurement if we're not all  
3 using the same yard stick.

4 And so, this committee, I think  
5 has a challenge to try and support, you know,  
6 the programs that will determine what the yard  
7 stick is going to be made of, for the future.

8 CHAIR WELCH: Okay.

9 MEMBER PERKINS: And then conclude  
10 my comments.

11 CHAIR WELCH: Thanks, Scott.  
12 Okay, Lawson?

13 MEMBER BRIGHAM: Yes, just to  
14 follow up with my question, but just to add  
15 that of course, everything is for attribution.

16 So, when we have the public and  
17 newspaper people here, and I say something  
18 about Alaska or whatever, I can expect that it  
19 could be, not likely, the probability, but  
20 since it is open and transparent, I dealt with  
21 this in the Arctic Research Commission, we had  
22 some -- everything was public, so, it's for

1 attribution.

2 So, you had to be savvy and  
3 careful of what you said, especially when the  
4 media was here, but even overall. So, just  
5 the attribution issue of, everything is open,  
6 fine, transparent, very good.

7 But attribution, expect that --  
8 and several times, when I was in a meeting, my  
9 name showed up, not the panel, but me,  
10 University of Alaska, of which the Chancellor  
11 read. So, it was interesting.

12 Anyway, my issues are about the  
13 same as everyone, but I'm interested  
14 personally, in dealing with multiple use  
15 management of the oceans, particularly in the  
16 Arctic, but overall, so, I'm interested in the  
17 marine spatial planning and how that is  
18 orchestrated and how that is defined, and how  
19 that affects all three of you, cross-  
20 functionally.

21 It's going to be a tough sell, but  
22 specifically in that, I'm really interested in

1 putting wind farms in the ocean, and how they  
2 affect coastal navigation, plus or minus, and  
3 fishing, and every other activity, but  
4 fishing, and then the other one is really,  
5 again, as it was mentioned many times, the  
6 Integrated Ocean and Observation System, and  
7 the collection of data by the federal fleet,  
8 how it really impacts Rich's programs, and how  
9 he supports all of that, because you know, Dr.  
10 Sullivan, the astronaut now, is the Deputy  
11 Administrator, but her title is Environmental  
12 Observations, kind of probably going to run,  
13 be the Zorro of the Integrated Ocean Observing  
14 System, but how Rich's programs support that  
15 is -- would be a little tricky, cross-  
16 functionally, and whether you get the support.

17 Then finally, of course,  
18 obviously, I have an Arctic interest and how  
19 maybe I can help the panel, describe what are  
20 necessary and important Federal contributions  
21 from the nav systems.

22 I mean, what I heard from the

1 three line programs was very positive, that I  
2 didn't know about some of the -- like, shore  
3 line positions and some observations and the  
4 fair charting activity, I'm not sure Alaskans,  
5 or even the delegations, understand they're  
6 actually doing some proactive and good work,  
7 little bit of missionary work there would be  
8 promoting self-promotion at NOAA, it would be  
9 good.

10 You need more -- need to do more,  
11 but you can see elements of Arctic, and then  
12 in the policy, arena, National Ocean Policy,  
13 I think a lot more needs to be done, and some  
14 of the officers here and some of the NOAA  
15 people deal, in trying to describe what the  
16 heck the Arctic is and what is the response?  
17 Maybe we can have a little group working on  
18 that stuff. But those are my areas of  
19 interest.

20 CHAIR WELCH: Okay, great, thanks.  
21 David?

22 COURT REPORTER: Could I ask Dr.



1 Jay and everyone over there, please speak  
2 directly into the microphone.

3 MEMBER JAY: First, I'd like to  
4 thank our HSRP support staff and the  
5 representatives of our three groups of NOAA.  
6 I feel, for this opportunity, I feel a little  
7 bit like the student in the Larson cartoon,  
8 you know, that raises his hand and says,  
9 "Teacher, may I be excused now? My brain is  
10 full."

11 This has been a very informative  
12 meeting. I've learned a lot. I hope I've  
13 absorb most of it. Probably, I'll have to  
14 hear it several times.

15 But anyway, I do have some  
16 thoughts. I think we need to define, and  
17 people have suggested some, and I will suggest  
18 some, some focus areas, and I think we need  
19 the working subgroups, that we can meet, so  
20 that you know, two or three years from now, we  
21 won't look back and say, "Well, you know, what  
22 we do, other than get together in nice

1       places?"

2                       So, towards that end, I'd like to  
3       suggest that one of our areas, which supports  
4       several of the objectives I saw in one of the  
5       HSRP -- the HSRP guidance document, I guess it  
6       was, that we need to -- more efficient and  
7       optimal data -- optimize data recovery and  
8       use, to use scarce tax dollars, and I think  
9       that's quite an important topic, that doesn't  
10      require a huge new expenditure. It's more of  
11      a coordination exercise, actually.

12                      And then along the lines of the  
13      PORTS, I also view the PORTS matter as  
14      extremely important, but I'd like to see if  
15      there are more opportunities for coordination  
16      with the larger ocean observing -- ocean  
17      observing systems is a very popular area,  
18      right now, but I -- what I see is confusion  
19      and a lot of overlap in different groups,  
20      making observations in the same area, but not  
21      necessarily much coordination.

22                      So, there may be possibilities

1       there, and it may partly be that I don't know  
2       enough about it, but I think there are  
3       opportunities for coordination. Thank you

4               CHAIR WELCH: Okay, thank you,  
5       David.

6               MEMBER CAROTHERS: I guess, one of  
7       the main things I'm taking away from here is,  
8       how many directions NOAA is pulled in, and how  
9       many stakeholders actually have, and to be  
10      quite honest, I'm a little -- I was a little  
11      surprised at how low NOAA's budget really is,  
12      when we start looking at each line, in the \$35  
13      million range, that was brought, in reading  
14      that.

15              I think, I've heard, that's almost  
16      in the surrounding area of the Federal budget,  
17      so, there is a lot of things that need to be  
18      done. There is lot of things -- you know,  
19      just hearing now, that we've learned about, I  
20      mean, that seems like \$100 million wouldn't  
21      even touch any of that stuff.

22              So, I think, my our role is being

1     able to prioritize a little bit. My  
2     background is along the geodetic side, so, I  
3     face daily, with my customers, geodesy  
4     questions.

5             So, I think that, you know, the  
6     NGS program of, you know, new data or whatever  
7     it is, it's probably crucial to moving forward  
8     in those areas, and everything else we talked  
9     about -

10            But again, I think it's more -- at  
11     least, I feel it's the prioritizing. None of  
12     the funding, it seems, NOAA has, into what  
13     we're doing -- we need to get the most bang  
14     for the buck.

15            CHAIR WELCH: Okay, good, thanks.  
16     Sherri, any thoughts?

17            MEMBER HICKMAN: I already said  
18     them.

19            CHAIR WELCH: Sherri has said  
20     them.

21            MEMBER JACOBSEN: First if all, I  
22     really enjoyed the stakeholders panels. I

1 think each one was fantastic, a lot of great  
2 input for all of us, especially me.

3 I wish we had the usual update we  
4 usually get on the vessels, the NOAA survey  
5 vessels, which ships are being built, where  
6 they are surveying, and what needs to be  
7 surveyed, that -- you had a graph in the past,  
8 like spreadsheets that showed that.

9 So, maybe in the next panel, we  
10 could get a better update.

11 CHAIR WELCH: Okay.

12 MEMBER JACOBSEN: And then to just  
13 follow along with PORTS, once again, we have  
14 to find funding for that, and I think there is  
15 ways, working with the Port Authorities and  
16 the shipping line associations, to maybe go  
17 after that harbor maintenance trust fund, and  
18 we can't expect to do it just through NOAA, or  
19 just ourselves.

20 But we should get some of these  
21 big players, like the shipping line  
22 associations, that are looking for ways to get

1       this equipment in, so they can get their ships  
2       loaded deeper and get them in and out of port  
3       safer, and we have to get that done.

4                   CHAIR WELCH:   Okay, thanks.   Mr.  
5       Vice Chairman?

6                   VICE CHAIR WELLSLAGER:   Well, the  
7       things that I've found this -- for me, what  
8       I've discovered with this past meeting was,  
9       PORTS is very, very vital.

10                   I never really understood, the  
11       space that was involved with so many small  
12       islands, until we started talking about the  
13       Pacific Basin, and it's a lot of space to  
14       cover, and resources are as limited as they  
15       are, it's going to be difficult to try to do  
16       what needs to be done, and we have to look at  
17       finding ways to work with the funding that's  
18       already in place.

19                   What I see the need for, besides  
20       PORTS, and that's been the ongoing problem  
21       that we have, is inter-agency cooperation.

22                   I'm not at all convinced that the

1 Navy doesn't do a lot of work, that we can't  
2 get access to. There is bathymetry there,  
3 that's been collected, that we should be able  
4 to access, and I think we need to work  
5 together, or strive to find ways to make  
6 recommendations to work together with  
7 different agencies, and find out what they  
8 have and find out what we have, that they  
9 could benefit by using.

10 More work needs to be done with  
11 the equipment that we have in the store -- I  
12 mean, in place, now. If ships go to areas to  
13 do work, and they have equipment that's not  
14 being used, the equipment needs to be used,  
15 for collecting data.

16 The northern areas in Hawaii, was  
17 it sonar that wasn't being --

18 MEMBER MILLER: Yes, it's sonar  
19 that's on the ship, that's not being used.

20 VICE CHAIR WELLSLAGER: Yes, I'm  
21 sure there could be some benefit with working  
22 with that sonar, if it were capable. I mean,

1 if the expertise were there to do that.

2 Near-shore bathymetry, that gap,  
3 it would be interesting to see, if we weren't  
4 able to find a way to get different groups  
5 together, to solve that problem.

6 You know, again, that kind of ties  
7 back into the inter-agency cooperation.

8 A lot could be done, and with  
9 research that's being -- taking place right  
10 now, with schools and with the private sector,  
11 that might be something that could be done  
12 with drones or something, I'm not really sure.

13 But I'm kind of curious, Gary,  
14 with the PORTS and the climate, if we put met  
15 data sensors on these CORS stations, the  
16 weather service could use some of that,  
17 because they could track the measurable  
18 precipitation -- not precipitation, but  
19 humidity, and do that for weather forecasting.

20 So, again, this inter-agency thing  
21 with PORTS might be a way to kind of pull some  
22 money in there, as well.



1                   So, it's a thought. I mean, I'm  
2                   not a weather guy. I don't like it, but it's  
3                   -- you know, if we could find a way to kind of  
4                   bring them into the fold, it might happen.  
5                   So, that's it.

6                   CHAIR WELCH: Okay.

7                   VICE CHAIR WELLSLAGER: I kind of  
8                   rambled, but that's where I see things.

9                   CHAIR WELCH: Okay, very good.  
10                  All right, we are suppose to have a public  
11                  comment period around now. So, I don't know  
12                  if we have any public commenters or not, but  
13                  why don't we invite that public comment  
14                  period, real quick?

15                  Hearing none, the public comment  
16                  period is closed.

17                  Let me in light of three NOAA  
18                  Governmental representatives, to make any kind  
19                  of observations they have. Rich, we'll start  
20                  with you.

21                  MR. EDWING: Sure. So, this is my  
22                  third full HSRP meeting, as Director of CO-

1 OPS. I think I've come to a couple of others  
2 over the years, just in terms of making a  
3 specific presentation.

4 But I think this one has been a  
5 little more eye-opening, and perhaps, the  
6 previous two, just given the locale, and I  
7 think the vast expanse of the -- just  
8 geography, that -- the needs are out there.

9 It's certainly, I think -- and  
10 I've got, I think, a long list of things to  
11 work on, when I get back, ranging from very  
12 specific issues to large ones.

13 The one I'll just talk about is, I  
14 think at one point, Joyce -- or say, Judy, do  
15 you have enough tide gauges out here, and you  
16 said, "Well, I think we do," because our plan  
17 that we did a number of years ago, where we  
18 tried to set -- determine how many end-long  
19 gauges do we need, total, we did that  
20 analysis, based upon the vertical span of  
21 control, that each gauge provides, in terms of  
22 providing a tidal datum, and that tidal datum,

1       you know, it's to reference frame work for the  
2       U.S., in terms of the water side of things,  
3       and it's the basis for nautical charting.

4               And in that plan, we acknowledged  
5       that it was really just based on that, and not  
6       tsunami needs, not storm surge needs and sea  
7       level. Those all bring very different things  
8       to the table, and we really couldn't even get  
9       our arms around those requirements from other  
10      folks.

11             So, but based on that, we had  
12      enough gauges in the Pacific, but I really am  
13      questioning that now, in my mind, based upon  
14      a lot of what I've heard here today.

15             And you know, John and I both said  
16      - we got these compacts, these two other  
17      portions of the Pacific and we were kind of  
18      unaware of those, and what do those really  
19      mean to us, in terms of expectations for  
20      services, to be provided.

21             So, I think -- well, I'm certainly  
22      going to be taking another look at, you know,

1       what are my real requirements out here, and I  
2       may be adding to my list of requirements out  
3       here. Doesn't mean the funding is going to  
4       show up, to meet those, but this trip has been  
5       very educational to me, in terms of, I think,  
6       highlighting that. Thanks.

7                   CHAIR WELCH: Thanks, Rich.

8       Juliana?

9                   MS. BLACKWELL: So, a couple of  
10       key things that I see, that we can do a better  
11       job of presenting to the group are things  
12       related to research efforts, perhaps along the  
13       lines of bathy LIDAR, and some of the pilot  
14       projects that we're engaging in with some  
15       other Federal agency, USGS, or the Corp of  
16       Engineers.

17                   And although those are not in  
18       production yet, at least some of the hopeful  
19       developments and technologies that we'll be  
20       able to use, to try to gather that gap and put  
21       some data in there, for all of us, from the  
22       hydrographic survey perspective, as well as

1 coastal management.

2 So, that's one area of focus that  
3 NGS would like to work on and report out on in  
4 the future.

5 The other part of the geodesy side  
6 is explaining the relevance and the importance  
7 of the geodetic datums, and certainly, we all  
8 understand the complexity of trying to get  
9 that very simple, understanding that then  
10 mushrooms into a lot of confusion, when you  
11 start talking about datums, and from the water  
12 side, and coming up with some tangible,  
13 sensible ways of thinking about that for the  
14 panel, and perhaps, some just examples of what  
15 -- what happens when you don't have this type  
16 of information.

17 And tie that to what we are  
18 working to improve for the future, with our  
19 new vertical datums, our GRAV-D project and  
20 all the other lingo that we threw around, but  
21 what this is really going to mean to the  
22 nation, and put it into perspective of things

1       like flood plain management and the importance  
2       of having accurate elevations for coastal  
3       management, what it's going to improve, the  
4       efficiencies that this is going to gain.

5               So, focusing on more of the high  
6       level impacts of the research and development  
7       that's ongoing in geodesy, related to again,  
8       the hydrographic surveying and the shoreline  
9       mapping, but also, into the non-coastal areas  
10      and the importance of improved elevations and  
11      positioning information, and I think that's  
12      it.

13             CHAIR WELCH: Thank you. John?

14             CAPT. LOWELL: Just a couple of  
15      quick comments. There was a little bit of  
16      discussion about the regional need for the  
17      meetings.

18             Every time I think I understand,  
19      let alone what my office does, with the nav  
20      services, I find out I'm woefully uneducated  
21      in the broad use of the things we do, and  
22      almost every meeting we come to, it opens my

1       eyes about a new use and a new direction and  
2       just things I didn't know about.

3               So, I would encourage this panel  
4       to continue down the line of very much, a  
5       regional approach to collecting information,  
6       and with that said, I think so far, at least  
7       all the meetings I've attended -- have  
8       attended, have all had the stakeholder panels.  
9       I can't even think of one that didn't.

10              I just think this is a great way  
11       to get regional information on, you know, the  
12       questions that we're putting out there, and I  
13       would encourage the panel, that when we set  
14       these meetings up, is that we have some  
15       consensus on what questions we want answered,  
16       which is kind of the strategic stuff coming  
17       up.

18              Once we set what it is we want to  
19       find out, then we can really build these  
20       panels, and we had three really great panels,  
21       this meeting.

22              So, I would encourage everybody on

1 the regional approach to collecting  
2 information and/or the panels as a way to  
3 collect that, on the ground.

4 And one of the things we've been  
5 working very hard on in coast survey for the  
6 last -- well, ever since I've been there, is  
7 efficiencies and what it is we're doing. I  
8 think that -- you know, it's so obvious, on  
9 the surface, OMB is very supportive of it, but  
10 whatever it is we're tasked to do, we just  
11 need to be efficient in meeting the needs --  
12 efficient in the way we do it, and hopefully,  
13 it meets the requirement that we understand it  
14 to be, and anything that we head down the road  
15 on, whether it be technology, meeting new  
16 customer requirements or coordination --  
17 coordinating multiple entities to meet a need,  
18 all has to be aimed toward that efficient use  
19 of resources, where it be Government,  
20 contractors, state, local, etcetera, etcetera.

21 So, I would encourage one of the  
22 directions that the panel could focus on would



1 be kind of under an efficiency umbrella, and  
2 then you could pull out anything that you  
3 think we can get some sort of a reasonable  
4 turnaround on, or way we could move forward on  
5 that. So, that is what I have.

6 CHAIR WELCH: Okay, thank you.  
7 Any of the other -- Gary, do you have any  
8 comments?

9 CAPT. GLANG: Thank you, Ed. I  
10 just wanted to comment on, if we took your  
11 questions and we threw them into, say, maybe  
12 three bins, what would come out of that, and  
13 would that be a starting point for a  
14 discussion on working groups?

15 I looked up in the chart, really  
16 quickly here, and as may be necessary, the  
17 DFO, acting for NOAA, can establish  
18 subcommittees, task forces and working groups,  
19 and if you go and look at some of the other  
20 websites, like the Science Advisory Board,  
21 they've structured themselves with some  
22 standing working groups and some ad hoc

1 working groups, and they have a link to some  
2 reports, so, you can see the kinds of products  
3 that they've made.

4 And a lot of those reports, they  
5 also issue letters to NOAA, asking us, asking  
6 the agency to explain certain things.

7 So, there is already a lot of  
8 information there, under the Science Advisory  
9 Board, for instance, on CMSP.

10 So, we could probably draw on what  
11 we see them do, and maybe before the day is  
12 out, hopefully at least think about  
13 notionally, sort of some bins that might  
14 constitute our working group on.

15 I think John just suggested  
16 efficiencies, but maybe we could narrow it up  
17 a little bit.

18 In each of these working groups,  
19 of course, we would want to sort of define the  
20 scope of what they're going to do, come up  
21 with a term of reference, if you will. Don't  
22 make it too broad for yourselves, because you

1 want to be able to accomplish something, when  
2 you come back and meet again in half a year,  
3 and say, "Look, here are the things we found."

4 But if you look at some of the  
5 other boards, and you think about it, you  
6 know, we would look forward to working with  
7 individual, you know, subset of the panel,  
8 during the course of the next half year, or  
9 more, answering questions or facilitating  
10 answers, from the other parts of the agency.

11 I think a lot of the points that  
12 were brought up today, we sort of know the  
13 answer, and a lot of questions have been  
14 answered, but we don't have those right at our  
15 hands.

16 So, things like data sharing,  
17 there is a tremendous amount of interest in  
18 that already at NOAA, a lot going on, but once  
19 you open up what sounds like a very simple  
20 concept, you realize, it's pretty complex.  
21 So, those are just my observations.

22 CHAIR WELCH: Okay. Any of our

1 other NOAA folks? Paul or Virginia? Anybody  
2 else have an observation you might want to  
3 make?

4 MR. BRADLEY: Well, I think --  
5 thanks for the opportunity.

6 I would just say that I'm very  
7 encouraged and pleased by just the comments  
8 going around the room. You know, I think you  
9 guys have really -- you've obviously taken a  
10 lot of information and came out with some  
11 thoughts that echo very well what -- things  
12 that we're looking on a day-to-day environment  
13 and you know, certainly, within the realm of  
14 my work, some big issues that we're trying to  
15 work on, and some little issues.

16 But I came here hoping to help  
17 reinforce that message of think strategically,  
18 think big picture, and you guys just ran with  
19 it. So, I think that was -- makes my job  
20 easy. So, I'm happy.

21 CHAIR WELCH: Okay, good, thanks.  
22 Okay, let me make a couple of comments and

1       then, we can have some discussion.

2               First off, I want to thank all of  
3       the members that came. This was excellent  
4       attendance and particularly, the new members,  
5       and the two new members that couldn't come,  
6       wanted to, and just had some insurmountable  
7       conflicts.

8               So, I think I mentioned in Silver  
9       Spring, I know it's always tough to break away  
10      from what our normal requirements and duties  
11      are, but the ability to actually come to the  
12      meetings is the key to being an effective  
13      member of an Advisory Committee.

14              So, I hope everybody will continue  
15      to feel like it's a worthwhile thing to do,  
16      and make every effort to do so. It's not  
17      always possible, but thanks for doing it this  
18      time, and thanks for the interest and  
19      engagement that people have shown in this  
20      meeting.

21              You know, I'm in the last year of  
22      my first term and while theoretically, I could

1 be reappointed, it's not likely that I will  
2 reapply, or will be reappointed, because there  
3 is an informal -- it's more than an informal  
4 edict from the White House, that they aren't  
5 going to be appointing or reappointing people  
6 to Advisory Committees if those folks are  
7 engaged in legislative or lobbying activities,  
8 which applies to me.

9 So, I'm probably kind of on the  
10 way down and next meeting, very likely, could  
11 be my last meeting as an official member of  
12 the panel.

13 Having said that, one of the  
14 things I would like to feel good about, if in  
15 fact, that is my last meeting, is that I've  
16 contributed a little bit to getting the new  
17 members engaged and up to speed and feeling  
18 like they're ready to roll.

19 So, that's one of the things that  
20 I want to try to see what I can -- whatever I  
21 can do, to help the NOAA staff bring that  
22 about.

1           The agency really wants us to  
2       think strategically, and of course, you know,  
3       what does that mean? You know, what does it  
4       mean to think strategically?

5           But one thing that's clear is that  
6       sort of the general themes of the President's  
7       ocean policy and the general themes of the  
8       agency's strategic plan, to the extent we can  
9       latch onto aspects of that, and relate that  
10      to, you know, the day-to-day type of  
11      activities of the navigation services and the  
12      geodetic services and that type of thing, and  
13      show how those types of programs relate to  
14      those big themes, and contribute to those big  
15      themes, I think that sort of contributes to  
16      thinking strategically.

17           So, it's important for us  
18      collectively, and some of us individually, to  
19      continue to skim through those two documents.  
20      They aren't overly long, and remind ourselves  
21      what are in those documents, and say, you  
22      know, kind of keep those things in the back of

1 our head and say, "How can we relate the stuff  
2 we talked about today, to them," because to  
3 the extent we can, we have a possibility of  
4 grabbing the attention of the administrator or  
5 the deputy administrator or the Cabinet  
6 Secretary or the Office of Management and  
7 Budget, and to the extent we're talking about  
8 things that aren't readily -- don't seem to be  
9 readily connected to those two documents, it's  
10 easier for them to dismiss what we have to  
11 say. So, we need to continue to do that.

12 At the last meeting, some of us  
13 were talking -- the one in Silver Spring, for  
14 the new members, some of us were talking about  
15 whether there might be some value at future  
16 meetings, to a little bit more than what we've  
17 done in the past, pick a theme to the meeting,  
18 and while we still have our regional focus,  
19 try to have our non-regional discussions  
20 connected to that bigger theme.

21 And that, to me, sounds like it  
22 might fit in with this idea that some of us



1 have brought up, about what are the -- you  
2 know, the three or four working groups, so to  
3 speak?

4 I mean, you could have a working  
5 group, a theme for a meeting, a strategic  
6 subject, all of which are sort of related to  
7 each other.

8 You know, you could say, if, for  
9 example, if the Arctic were a strategic  
10 subject, well, the Alaska meeting could focus  
11 on Arctic issues, and we could possibly  
12 convene a subcommittee of members, of some of  
13 our panel members, possibly even chaired by  
14 Lawson, you know, to help plan the meeting, to  
15 sort of frame some questions.

16 You know, traditionally, the  
17 meetings have been planned primarily by the  
18 staff of NOAA, with some input -- the program,  
19 some input from the Chair and the Vice Chair.

20 But you know, it wouldn't be hard,  
21 if people were willing to do it, if we had a  
22 working group on the Arctic, to be much more

1 involved in helping to plan the Arctic meeting  
2 in Alaska.

3 We could do that with several  
4 different themes. You know, if we were going  
5 to do that, I really liked several of the  
6 observations, but particularly Scott's, about  
7 the need to try to force the agent -- force  
8 the agent -- try to encourage the agency, to  
9 engage the Defense Department and other  
10 agencies, and say, "How can everybody be aware  
11 of what everybody else is doing," and  
12 everybody could receive value from what  
13 everybody else is doing.

14 I think that would be a strategic  
15 type of subject matter, and it could be the  
16 theme of a meeting somewhere, maybe in  
17 Norfolk, if we were having a Norfolk meeting  
18 that was sort of giving a particular focus to  
19 the Defense Department.

20 So, I mean, I could think of a  
21 half-dozen type of things for working groups,  
22 strategic areas, themes of meetings, and some

1 of the challenge would be, and you can't do  
2 everything, you know, you've got to bite off  
3 what you can chew, and the one thing I can say  
4 about working groups, and doing work between  
5 meetings, it sounds good. It would be great,  
6 if we could do it. We might want to try to do  
7 it, but let's be realistic, we all have other  
8 things to do.

9 This is not, you know, with the  
10 exception of the NOAA people, this is not our  
11 main purpose in life, and it's tough, just  
12 pulling in the time.

13 You know, so, what I would suggest  
14 is, I've been taking a lot of notes, and I  
15 would suggest that -- I'd like to put together  
16 a little document over the next week or so,  
17 with my thoughts on what I've heard from all  
18 of you, about six or seven theme -- possible  
19 themes, working groups, strategic areas, and  
20 circulate them, and see if people would want  
21 to comment on them.

22 And you know, I may be -- my ideas

1       might be totally off base, and you might feel  
2       like I left something out that was so glaring  
3       and obvious to you, you know, then obviously,  
4       you could -- and you know, I think, for  
5       example, this is not my area of expertise, but  
6       obviously, you know, I think there ought to be  
7       some kind of strategic group theme on the  
8       geodetic side, and I don't know quite how to  
9       frame that.

10               But some of you would, and --

11               MEMBER MILLER:  Would that  
12       include, say, PORTS, or is that not --

13               CHAIR WELCH:  Well, it could  
14       include what we want, but I was thinking more  
15       in terms of the -- what I would say, the land  
16       type observations --

17               MEMBER MILLER:  And that means  
18       spatial recommendations?

19               CHAIR WELCH:  Yes, that type of  
20       stuff, you know, all the things that I've  
21       never even heard of before, but -- before I  
22       came on the panel.  I came on this panel

1       thinking, "I'm going to be talking about  
2       nautical charts," and people are saying, "D-  
3       down, ground-D," and I was like, "What the  
4       heck did I get myself into?"

5               MEMBER DIONNE: But the National  
6       Spatial Reference System, that does sound very  
7       grand, I mean, you know --

8               CHAIR WELCH: Of course, so, I  
9       would like to circulate my thoughts, trying to  
10      -- which would be based on your contributions,  
11      by email, and see if you all would like to  
12      react to them, and then go from there.

13              So, with that, those are my  
14      thoughts, and I would be glad for anybody to  
15      react now, or John or -- yes, David?

16              MEMBER JAY: Well, I will simply  
17      bombard you with, I already put together about  
18      a page and a half of slots, on the subject.

19              So, I will simply bombard you with  
20      that, and you can include it, as you will.

21              CHAIR WELCH: Okay, that's -- what  
22      was the quote? "Send it on," or -- no, our

1       former President, what did he say? "Bring it  
2       on. Bring it on." That would be good.

3               MEMBER BRIGHAM: I just echo the  
4       narrow theme that you brought up, Scott and  
5       others, and I noticed on the stakeholder --  
6       the panels, that no one actually spoke from  
7       the operational Navy or the Army Corps of  
8       Engineers, and as a citizen, as a panel  
9       member, I think a huge user, USN, coastal  
10      facilities, huge provider, Army Corps of  
11      Engineers, although Army Corps of Engineers  
12      sitting here, and we've had representatives  
13      from the DoD.

14             But I think if we can, that they  
15      be part of the stakeholders, even though  
16      they're not from private sector, because I  
17      think they're big players in this, and I --

18             CHAIR WELCH: And if I could  
19      interrupt, and we have had them in --

20             MEMBER BRIGHAM: Okay.

21             CHAIR WELCH: For example, we had  
22      the Commander of the -- of course, I don't

1 know the exact name of the facility, but the  
2 Navy facility up in Newport, that trains  
3 everybody in surface navigation --

4 MEMBER BRIGHAM: Yes.

5 CHAIR WELCH: -- and he came up  
6 and made a presentation, and we've had -- we  
7 had the Colonel from the Corps District up in  
8 Portland, at our last meeting. In fact, he  
9 was sort of our kick-off speaker.

10 So, you can't do everybody, every  
11 time, and so -- but it's a well taken point.

12 MEMBER HICKMAN: I just, you know,  
13 you guys, I thought maybe this was what Ed was  
14 leading to, when he said the next meeting may  
15 be his last, and as far as he's concerned,  
16 he's usually right.

17 So, you folks new to the panel  
18 might want to start thinking about who is  
19 going to be the Chair. I'm not sure how much  
20 longer Matt has on, but that's a very, very  
21 hard position. I know, Ed puts a lot of work  
22 into it, more than we do, as members.

1                   So, you might want to think  
2                   amongst yourselves, who wants to step into  
3                   those big, mighty shoes.

4                   CHAIR WELCH: I would say,  
5                   actually, Matt does have several more years,  
6                   because he just started.

7                   MEMBER HICKMAN: I see his mouth  
8                   open.

9                   CHAIR WELCH: But it is good to  
10                  have the Chair and the Vice Chair not be of  
11                  the same class.

12                  MEMBER HICKMAN: Right.

13                  CHAIR WELCH: You know, so, they  
14                  don't go off at the same time.

15                  MEMBER HICKMAN: So, then you  
16                  might want to think about a Vice Chair, Matt.

17                  CHAIR WELCH: And actually, that's  
18                  a good point, Sherri, because it's --

19                  MEMBER HICKMAN: It's a lot of  
20                  work.

21                  CHAIR WELCH: I don't know that  
22                  that decision has to be made at the Fall



1 meeting, but it ought to be started to be  
2 thought about at the Fall meeting, and that  
3 gives -- Lawson, were you waiting? Oh, Joyce  
4 was waiting.

5 If you will hang on, just a second  
6 and then --

7 MEMBER MILLER: Sure, that's no  
8 problem.

9 CHAIR WELCH: -- that gives me the  
10 opportunity, I think maybe, Kathy was  
11 reminding me, and I think I may be -- might  
12 not reference -- let Kathy have something to  
13 say.

14 The Fall meeting, we probably  
15 ought to discuss a little bit about what the  
16 process will be for soliciting the next round  
17 of applicants to be on the committee.

18 I know you just got appointed, but  
19 the Government solicitation process takes far  
20 more turns than you would think it should. Do  
21 you have anything you want to say about that,  
22 now?

1 MS. WATSON: Well, I would --

2 CHAIR WELCH: Well, let me ask  
3 this. When would -- if the situation took  
4 place under normal conditions, when would the  
5 next public solicitation be made?

6 MS. WATSON: Actually, it needs to  
7 go out summer of this year, 2011, because it  
8 will take at least four months for the process  
9 and nominations to come in, I'm saying at  
10 least, nominations to come in, evaluations,  
11 and then final selection and confirmation and  
12 all of that.

13 CHAIR WELCH: So, what we will  
14 have is a class of five people, that are my  
15 class.

16 I think all of us in my class, Tom  
17 is in my class, are theoretically, eligible to  
18 reapply and be reappointed, at least under the  
19 statutory criteria.

20 Now, given the administration's  
21 sort of informal criteria, you know, that  
22 might rule me out.

1                   But the others would not  
2 necessarily be ruled out, if they chose to  
3 reapply. But on the other hand, there is no  
4 absolute certainty that they would be  
5 appointed for sure.

6                   But in other words, there would be  
7 five appointments, or reappointments, that  
8 would occur, as a result of this summer's  
9 solicitation.

10                  So, if you know of people or  
11 associations that represent folks that might  
12 contribute to this, you might start thinking  
13 about it and letting Kathy know, because Kathy  
14 has this sort of large email notice situation,  
15 for sending the word out, that gets published  
16 in the Federal Register.

17                  But sometimes, I mean, we -- for  
18 example, this last time, we've been lacking  
19 people on the Great Lakes. So, several of us  
20 made efforts to call various people in the  
21 Great Lakes, saying, "This is coming out. You  
22 or somebody you know ought to apply for it."

1                   Okay, I had Joyce wait, so, I'll  
2                   let her go first.

3                   MEMBER MILLER: This was just sort  
4                   of an after-thought that I should have  
5                   mentioned at first.

6                   But in light of what several other  
7                   people mentioned, I think it would be useful,  
8                   because of the overlap with things like data  
9                   sharing and so forth, and I know it wasn't  
10                  possible this time, because of Roger, but it  
11                  might be useful to have a bit of a discussion  
12                  of the IOCM program, next time, and where it  
13                  stands, because there is a lot of overlap with  
14                  some of the issues that were brought up.

15                  And it might give us a better  
16                  understanding of where things stand, and you  
17                  know, what's going on. So, that was just a  
18                  comment.

19                  CHAIR WELCH: All right, David?

20                  MEMBER JAY: I was just wondering  
21                  if you had any list of professional societies  
22                  or organizations that you routinely get to the

1 solicitation for members, and then --

2 MS. WATSON: Yes.

3 MEMBER JAY: -- each of us could  
4 probably suggest a few, that might help a lot.

5 MS. WATSON: Yes, last year I sent  
6 out the FRN to over 2,500, which included a  
7 diverse audience of professional  
8 organizations, Academy of Sciences, all the  
9 different various ones, and plus, there is  
10 also policy guidance from NOAA on the outreach  
11 efforts, too.

12 CHAIR WELCH: I would suggest that  
13 rather than us asking Kathy to share her list  
14 of 2,500 people with us, if we know of a group  
15 that we think ought to be on Kathy's list, if  
16 we could just individually take the initiative  
17 of sending it to her, and she could check and  
18 see if she's got it on her list or not.

19 MS. WATSON: Yes.

20 CHAIR WELCH: So, if you have  
21 suggestions, please do that.

22 MEMBER JAY: Just bang us with an

1 email on the subject, you know, if you're  
2 sending out stuff.

3 MS. WATSON: Yes.

4 VICE CHAIR WELLSLAGER: Kathy,  
5 when will it be posted, the register?

6 MS. WATSON: Well, it's probably  
7 going to be posted in June. It's got to go  
8 through a review. We draft it, document it,  
9 it's got to go through tri-office review, then  
10 it's got to go through policy review, and  
11 also, NOAA headquarters review and dah, dah,  
12 dah.

13 So, that's why I'm saying at least  
14 four months.

15 CHAIR WELCH: So, you'll start on  
16 that, when you get home?

17 MS. WATSON: As soon as I return.

18 CHAIR WELCH: Yes, okay. All  
19 right.

20 MEMBER CAROTHERS: Who does the  
21 actual selection? Does the committee select  
22 any members, or does NOAA?

1                   CHAIR WELCH: No, we have nothing  
2                   to say about that.

3                   MEMBER CAROTHERS: Okay.

4                   CHAIR WELCH: I mean, we can try  
5                   to encourage people to apply, and we should,  
6                   but we have no mechanism for giving input to  
7                   the agency. Yes, John?

8                   CAPT. LOWELL: Yes, just to give  
9                   you a quick run down of what we do do, is once  
10                  we go out, we get a whole list of applicants  
11                  in, and I think we had several hundred last  
12                  time.

13                  There are specific rules that we  
14                  follow, that are defined in the FACA's, you  
15                  know, there should be a regional focus, the  
16                  discussion on Great Lakes was a good example  
17                  of that.

18                  There are specific KSAs,  
19                  knowledge, skills and abilities that we look  
20                  at, and that all goes into a bin, also based  
21                  on the current membership of the panel.

22                  In other words, we wouldn't -- you

1 know, if it seems to be we're getting heavy on  
2 the geodetic side, we might want to go out  
3 into a different direction.

4 Things of that nature, all balance  
5 in there, but the rules are to create a  
6 diverse panel, based on, you know, the advice  
7 of -- they are to provide, the organizations  
8 they represent, and the geographical areas of  
9 the country are represented in there, and we  
10 typically come up with a list of primary  
11 recommendations and alternate recommendations,  
12 and there is a group review of the three of  
13 us, plus Andy, another non-voting member, and  
14 Larry, should he wish to be involved in that.

15 Then that goes up through the NOAA  
16 chain, and believe it or not, Dr. Lubchenco  
17 takes an active role in selecting these  
18 individuals.

19 So, don't think that we make those  
20 selections, you know, just, you know, because  
21 we like somebody. It goes through a very,  
22 very intense review process, and I hope you



1 all appreciate the fact that you were  
2 selected.

3 CHAIR WELCH: Lawson?

4 MEMBER BRIGHAM: Yes, I know you  
5 do this balance thing on regional and then  
6 specific, and I'm presuming we might lose a  
7 couple of our pilots, or maybe not if you re-  
8 up.

9 MEMBER HICKMAN: At least one.

10 MEMBER BRIGHAM: Yes, and I think  
11 --

12 CHAIR WELCH: I guess, Sherri's  
13 time -- her second term is coming towards an  
14 end, right?

15 CAPT. LOWELL: She had a one year  
16 extension.

17 MEMBER HICKMAN: Yes, I had a one  
18 year extension.

19 MEMBER BRIGHAM: Just my point is,  
20 that we want some ship people on, and I think  
21 Steve is a former master mariner, that's now  
22 in management.

1                   So, we want some ship people,  
2                   obviously, and you'll have 'x' number of  
3                   pilots and current mariners that -- besides  
4                   the geodetic and ocean serving people and  
5                   scientific backgrounds.

6                   CAPT. LOWELL: Right, groups like  
7                   port authorities. I mean, they all fall under  
8                   the initiative we try to cover.

9                   MEMBER BRIGHAM: Being a shipper,  
10                  I would hope you would put in a few words, for  
11                  sure.

12                  CHAIR WELCH: Lobbyists are going  
13                  to be under-represented.

14                  MEMBER BRIGHAM: Well, even the  
15                  cruise ship industry, I mean, let's face it,  
16                  that's huge, right?

17                  CAPT. LOWELL: Yes, we actually had  
18                  a cruise ship representative who just departed  
19                  the board.

20                  MEMBER BRIGHAM: Yes.

21                  CHAIR WELCH: Right. Other  
22                  thoughts or observations?

1                   Okay, there is one last thing that  
2                   I'd like to mention, and that is  
3                   traditionally, in the last few years, when  
4                   we've had a meeting, we have concluded by --  
5                   we've provided a letter to the Administrator,  
6                   following the meeting, which was -- tended to  
7                   be drafted by the Chair and the staff, that  
8                   did two things.

9                   It summarized sort of the general  
10                  themes of the meeting, sort of to tell the  
11                  Administrator, "You've got an active  
12                  committee. Here is what they were talking  
13                  about. Here is what they were thinking  
14                  about."

15                  Number two, "Here are some  
16                  specific recommendations that we would like."

17                  It was sort of -- I mean, we're  
18                  not required to do that, and sometimes, it was  
19                  easy coming up with recommendations, and  
20                  sometimes, we had to stretch a little bit, to  
21                  come up with some specific recommendations.

22                  I think we should definitely send

1 a letter to the Administrator, saying, "We  
2 met. Here are what our themes are."

3 There has been -- I'll probably  
4 get myself in trouble with somebody here, but  
5 I've gotten mixed signals, I guess, from  
6 various folks within the agency, as to whether  
7 -- the agency leadership wanted  
8 recommendations, you know, specific  
9 recommendations.

10 Obviously, you know, for example,  
11 an example of a recommendation was the fact  
12 that we wrote the letter a couple of meetings  
13 back, "You need to get up there to that  
14 fishing bay, up in Maine, and try to enhance  
15 the," -- you know, try to deal with surveys up  
16 there for the fishing fleet.

17 And we had a recommendation down  
18 in Florida, "You need to work with various  
19 people and try to move the cruise ship  
20 berthing area off the top of the coral reef."

21 And so, the recommendations could  
22 be as specific as something like that, and I

1 think the panel always liked making the  
2 recommendations, and I think there were folks  
3 in the agency that liked getting the  
4 recommendations, but I also thought there were  
5 some people in the agency that kind of said,  
6 "Oh my gosh, here comes more recommendations."

7 So, anyway, I've kind of gotten  
8 mixed signals from various people in the  
9 agency, as to whether they want  
10 recommendations or not.

11 My question is, we haven't been  
12 thinking about recommendations at this  
13 meeting, I mean, in the past meetings, from  
14 day one, as we went in, we started saying --  
15 in fact, at the end of each day, we would say,  
16 "Was there something here that might be the  
17 basis for a recommendation?" But we haven't  
18 done that, this time.

19 So, do we want to try to come up  
20 with a couple of recommendations to include in  
21 a letter, or do want to just want to do a  
22 letter that sort of reports on our activity

1 and our general themes?

2 I mean, I have not heard, that I  
3 can think of, something that I would feel like  
4 was a burning thing for a specific  
5 recommendation, but what do you all think?  
6 Lawson?

7 MEMBER BRIGHAM: Well, I'm not  
8 sure if they have to be recommendations. I  
9 think there are points or observations.

10 I think we've got a lot of  
11 problems on our hands, well, the Government,  
12 on marine spatial planning. I think we heard  
13 a little bit about that, and if you were to  
14 ask me for some points, I would say, we had a  
15 discussion about marine spatial planning.

16 I think there are a lot of  
17 questions, maybe our sense is it hasn't been  
18 marketed well and explained well, and more  
19 needs to be done.

20 I don't think it's a  
21 recommendation, per se. It may be an  
22 observation.

1 CHAIR WELCH: Okay.

2 MEMBER BRIGHAM: And there may be  
3 other issues, Arctic, I would say, if you  
4 asked me, stuff is being done, pretty good  
5 stuff, and -- that I haven't heard some of it,  
6 and it may be, again, a little bit more  
7 marketing to the field and to the staffers  
8 would be helpful.

9 Doesn't mean we need -- don't need  
10 more resources, in the line organizations, but  
11 I think actually, the very valuable work  
12 that's being done and funding is being  
13 allocated to Arctic.

14 CHAIR WELCH: One think I didn't  
15 make clear is that when the Chair and the  
16 staff drafted the letter, it was then  
17 circulated in draft form, to all the panel  
18 members.

19 So, panel people could say, "Oh,  
20 no, that's not what we want to say," or "You  
21 forgot this," or that type of thing.

22 So, you know, I'm not out here,

1       saying let's gin up recommendations, but  
2       particularly for the returning members, I  
3       didn't want to pass over this sort of  
4       traditional thing that we did, and you said --  
5       you know, why did we forget about that. Tom,  
6       did you have a thought?

7               MEMBER JACOBSEN: Well, yes, I  
8       think it's critical, if we do write the  
9       letter, and then definitely, this -- just  
10      talking about first of all, the overwhelming  
11      amount of work that needs to be done out  
12      there, that NOAA does, so extremely well, and  
13      the lack of funding, and you can't be cutting  
14      more.

15             You know, making the point of,  
16      don't go backwards with this. We have to move  
17      forwards, and then pick out a couple of  
18      points. I think definitely, we can draw upon  
19      two points or three points, from this meeting,  
20      let's put that in there.

21             CHAIR WELCH: The PORTS  
22      maintenance is an recurring issue in our



1 meeting.

2 MEMBER DIONNE: The themes that we  
3 mentioned really could be sort of mentioned as  
4 recommendations for NOAA's interest, or you  
5 know, NOAA's attention.

6 The IOOS and the interoperability,  
7 data interoperability, those go together. The  
8 geodesy and the -- you know, the seamless  
9 topography to bathymetry idea.

10 CHAIR WELCH: And I don't know  
11 that we brought a sample recommendation  
12 letter. We should have. If we didn't -- but  
13 I mean, these things are not tomes, they're,  
14 you know, a page and a half, or something like  
15 that. Joyce?

16 MEMBER MILLER: Yes, I think from  
17 -- I mean, kind of representing the Pacific  
18 Basin, I think the hugeness of the area and  
19 the lack of resources, and I mean --

20 CHAIR WELCH: Okay, that's exactly  
21 the type of general observation that we have  
22 tried to focus on.

1                   MEMBER MILLER: And so, the -- as  
2 Rich said, you know, when I asked him early  
3 on, "Are there enough tide gauges," he sort of  
4 confidently said, "Yes," and then listened to  
5 really, two full panels of stakeholders that  
6 came and said, "You know, there is dozens of  
7 reasons that we need better geodetic control,"  
8 and then I would -- with John, back there, I  
9 would reiterate, you know, our bathtub ring  
10 gap is just, you know, it kills us in the kind  
11 of ecosystem side of things.

12                  MEMBER DIONNE: But that's also  
13 relevant to many other certain more  
14 traditional nav services mission pieces, as  
15 well.

16                  CHAIR WELCH: Yes, David?

17                  MEMBER JAY: The observation that  
18 we intend to form some subgroups and  
19 identifying the subgroups, doesn't -- it isn't  
20 a specific recommendation, but certainly says  
21 what we're interested in.

22                  CHAIR WELCH: Well, it does, and

1       in fact, we don't even have to yet, I mean,  
2       depending on when we send the letter,  
3       obviously, the earlier you send the letter,  
4       the better.

5               But if we had not fully decided on  
6       this, just the fact that we had decided to do  
7       something along those lines, to comply with  
8       their request, to think strategically, you  
9       know, we need to say, "We've spent a lot of  
10      time, figuring out how we're going to --  
11      things we can advice strategically on," the  
12      Administrator, that's something she will want  
13      to hear.

14             Well, what I would suggest then is  
15      that Matt and I will take the first stab with  
16      the staff, at composing a letter along those  
17      lines, and then we will circulate it to you.

18             So, you'll be getting that and  
19      you'll be getting my little individual  
20      document about sort of strategic directions  
21      for the panel.

22             So, yes, Lawson?

1                   MEMBER BRIGHAM:   Maybe I think we  
2                   should --

3                   MEMBER DIONNE:   In the letter, I  
4                   don't know if it will be possible, but if  
5                   there are obvious links between the  
6                   observations that we're making and the NOAA  
7                   strategic plan, you could also do that.

8                   CHAIR WELCH:   Right, right.   Here  
9                   is a letter, which letter is this?   Oh, this  
10                  is a recent letter.

11                  MR. BRADLEY:   The Providence  
12                  letter.

13                  CHAIR WELCH:   The Providence  
14                  letter.   So, why don't we skim through it?

15                  You know, we basically talk about  
16                  what are the things that we did, sort of the  
17                  general themes that we did.   We talked about  
18                  the various types of interests of people that  
19                  were representative of stakeholders, in the  
20                  stakeholders panel.

21                  See, we have the Navy Surface  
22                  Warfare Officer School Director as one of our

1 presenters, Lawson.

2 We were a little bit concerned  
3 that their -- their draft -- I guess it was at  
4 that point, the draft -- the strategic plan  
5 was still not in final form, and we were  
6 feeling it was a little light on references  
7 for marine transportation.

8 So, we urged them to beef it up a  
9 little bit, and I think they did.

10 MEMBER DIONNE: That's cool.

11 CHAIR WELCH: We didn't talk much  
12 about the fleet, at this meeting, but we  
13 talked quite a lot about some of the  
14 deficiencies of the fleet, in the last  
15 meeting.

16 This is our fishing fatalities up  
17 in Bay in Maine, number three. There was an  
18 issue, as to the relative roles of NOAA and  
19 the FAA and distributing certain types of  
20 charts.

21 MEMBER DIONNE: CMSP.

22 CHAIR WELCH: Coastal and marine

1 spatial planning. The Bill that -- in the  
2 last Congress, is the same in the Bill that's  
3 in -- that's going to have the hearing that  
4 Paul Bradley talked about.

5 We were -- we appreciated them  
6 using stimulus money for some charting  
7 purposes. So, we won't consider all of that.

8 But also, we said in number 10, as  
9 polite as we could, get on with appointing the  
10 new members.

11 MEMBER BRIGHAM: Just the  
12 composition letter, I thought it might be  
13 useful to do the -- a couple of bullets in the  
14 regional, the Pacific and its importance and  
15 what we learned regionally, and then the  
16 broader ones that are agency and marine  
17 spatial planning, beyond the Pacific and that  
18 might be useful, if she reads the letter,  
19 she'll see, "Oh, you went to Hawaii, it cost  
20 a lot of money."

21 But we actually learned a bunch of  
22 stuff, and then the more agency stuff. Well,

1 any agency -- Hawaii, people ask, "Well, why  
2 did they go to," --

3 CHAIR WELCH: Well, listen, I  
4 think we --

5 MEMBER BRIGHAM: It's very  
6 positive.

7 CHAIR WELCH: I mean, I haven't  
8 really started writing the letter in my head,  
9 but I think we need to emphasize right up  
10 front, that the Lieutenant Governor was there.

11 MEMBER BRIGHAM: Yes, right.

12 CHAIR WELCH: Yes.

13 MEMBER BRIGHAM: Okay.

14 CHAIR WELCH: So, okay.

15 MEMBER MILLER: We've been a  
16 secret.

17 CHAIR WELCH: Exactly right, you  
18 know, that's exactly right, you know, it's  
19 these little things that people remember, and  
20 that's exactly right.

21 MEMBER DIONNE: And it's, you  
22 know, it's the only logical place to meet, to

1 learn about the entire region.

2 CHAIR WELCH: Okay.

3 MEMBER HICKMAN: One question.

4 CHAIR WELCH: Yes, sure.

5 MEMBER HICKMAN: I know we  
6 discussed thanking Captain Lamb, was it, with  
7 Matson? Are we going to -- did we want to --  
8 are we doing that as a group, or do you --  
9 would you suggest we send thank you notes  
10 separately?

11 CHAIR WELCH: Let's talk about  
12 that. How would we normally thank Matson and  
13 Captain Lamb?

14 Well, first off, we send a 'thank  
15 you' letter to all of our people, you know,  
16 everybody that comes in and either speaks to  
17 us or has helped put together the letter, is  
18 on -- gets a 'thank you' letter, that I guess,  
19 you sign, Captain Lowell?

20 CAPT. LOWELL: Yes, I typically  
21 sign for the panel, in this case. I would  
22 hate to try to route that around for



1 everyone's signature.

2 CHAIR WELCH: But I'm just  
3 wondering if -- yes, if we ought to have  
4 perhaps, a little bit more of an enhanced  
5 letter to Captain Lamb and Matson and -- as a  
6 whole.

7 MS. WATSON: Yes.

8 MEMBER MILLER: Do we get a  
9 listing of everybody who signed in, with  
10 contacts and so forth, because there were some  
11 people here that I didn't know, that are in  
12 Hawaii?

13 MS. WATSON: Right, that's why we  
14 have the public sign in sheets, and the Court  
15 Reporter is recording everything, and all  
16 attendees.

17 So, usually 30 to 60 days after  
18 the meetings, a summary is printed, which  
19 lists all of the attendees at the end.

20 There are some samples on the HSRP  
21 website, from previous meetings, so you can  
22 see.

1 CHAIR WELCH: And do we --

2 COURT REPORTER: I'm not going to  
3 have anyone's contact information.

4 MEMBER MILLER: But some of it is  
5 in here.

6 CHAIR WELCH: Yes, we usually -- I  
7 mean, if there is somebody that we need the  
8 contact information, we can either through the  
9 magic of Google or perhaps, just asking the  
10 NOAA staff, we can usually track them down.

11 But I assume that we will post  
12 that list of the attendees as part of the  
13 product of this meeting, on the website. So,  
14 I don't know that we'll be sending that around  
15 individually, Joyce, but it's kind of more  
16 efficient, just to post it on the website.

17 MEMBER MILLER: Sure.

18 CHAIR WELCH: All right, we've got  
19 about 15 seconds left. This is the last  
20 comments or questions.

21 MS. WATSON: I have one last  
22 comment.

1 CHAIR WELCH: Yes, Kathy?

2 MS. WATSON: I'd like to say to  
3 the panel, thank you very much, appreciate all  
4 of you coming, looking forward to -- and I  
5 wanted to give personal recognition to  
6 Lieutenant Kyle Ryan. If it had not been for  
7 Kyle working tirelessly with me for the last  
8 three and a half months, we would have never  
9 had the three stakeholder panels, and in  
10 addition, thank you to Ed Carlson, for the  
11 last minute speakers. I appreciate that.

12 CHAIR WELCH: Okay, well, Kathy  
13 kind of beat me to the punch, because I was  
14 going to thank, on behalf of the panel, not  
15 only Kyle, being on site and being our point  
16 person here, but all the NOAA staff, a  
17 tremendous amount of organizational work gets  
18 done by -- that we aren't aware of.

19 And so, Tiffany and Virginia and  
20 Captain Glang, Kathy, three line officer  
21 agency folks, there are even people that we  
22 don't even see, from NOAA headquarters, that

1 never get to come to this meeting, that have  
2 to -- that do a lot of work for us.

3 And so, thank you to all of you.  
4 Thank you to Kayla, for our Court Reporter and  
5 our sound engineer, thank you. Who else have  
6 we missed?

7 So, unless anybody else has a  
8 comment or a question, I think we'll adjourn,  
9 and we'll be in touch with you in a short  
10 period of time, and we'll look forward to  
11 seeing everybody at the Fall meeting. Thank  
12 you.

13 (Whereupon, the above-entitled  
14 matter concluded at 3:00 p.m.)  
15  
16  
17  
18  
19  
20  
21  
22

A				
<b>abatements</b> 45:16	<b>accurate</b> 254:2	190:4 213:18	<b>advantage</b> 120:11	259:10 263:1
<b>abilities</b> 279:19	<b>achievable</b> 219:16	237:14	<b>advice</b> 173:16	266:8 279:7 284:6
<b>ability</b> 45:13,15	<b>achieve</b> 144:8	<b>added</b> 48:15 78:10	209:14 280:6	284:7 285:3,5,9
71:14 91:19	<b>acknowledge</b> 24:12	121:20 134:16	291:11	294:16,22 295:1
130:21 193:10	<b>acknowledged</b>	<b>adding</b> 252:2	<b>advise</b> 224:15	299:21
261:11	251:4	<b>addition</b> 24:11	<b>advises</b> 196:22	<b>agency's</b> 150:1
<b>able</b> 32:13 33:1	<b>acoustic</b> 129:15	55:22 299:10	225:9	162:12 263:8
39:13 40:11 43:21	<b>acquisition</b> 19:13	<b>additional</b> 69:22	<b>Advisory</b> 6:9 56:20	<b>agent</b> 266:7,8
44:13,16 46:21	<b>acquisitions</b> 73:4	81:12 186:8	257:20 258:8	<b>aggressive</b> 222:6
51:8 53:1 61:2	<b>acronym</b> 229:14	<b>address</b> 34:17	261:13 262:6	<b>ago</b> 70:17 89:2
65:22 74:2 82:12	<b>acronyms</b> 77:5	42:20 46:16,22	<b>advocacy</b> 170:15	104:11,15 108:21
88:11 100:4 119:9	<b>act</b> 73:14,22 105:20	57:4 67:1 76:4	<b>advocate</b> 41:8 43:1	129:5 133:19
119:12 121:19	109:19 156:13	232:14	45:19 102:20	170:4,8 175:4
142:19 148:14	177:9,11,19	<b>addressed</b> 76:7	234:5	207:19 232:22
195:16 198:11	178:14,15,21	107:18 188:2	<b>advocating</b> 171:11	250:17
204:21 210:8	179:6 189:5,6,10	<b>addressing</b> 178:2	<b>affairs</b> 96:15	<b>agree</b> 155:15 158:3
244:1 247:3 248:4	189:12,18,19	<b>adequate</b> 126:4,8	185:19	208:1 213:16
252:20 259:1	190:6,10	<b>adhere</b> 196:6	<b>affect</b> 89:7 91:19	217:1,5
<b>above-entitled</b>	<b>acting</b> 257:17	<b>adhering</b> 150:15	239:2	<b>agreement</b> 34:3
139:6 195:21	<b>action</b> 127:1	<b>adjourn</b> 300:8	<b>affiliate</b> 98:13	<b>agreements</b> 38:12
300:13	180:18	<b>adjust</b> 198:16	<b>affiliation</b> 4:22	<b>ahead</b> 7:11 48:10
<b>absolute</b> 275:4	<b>actions</b> 74:12 119:6	<b>adjustments</b>	<b>afford</b> 78:5	91:3 93:14 115:3
<b>absorb</b> 241:13	<b>activation</b> 93:8	152:15	<b>afield</b> 111:16	115:15 119:15
<b>Academies</b> 118:13	<b>active</b> 30:12 32:8	<b>administered</b>	<b>afraid</b> 157:8	133:10 152:22
<b>Academy</b> 277:8	280:17 283:11	181:16	<b>afternoon</b> 5:16	<b>AHI</b> 28:8,12,17
<b>accept</b> 152:10	<b>activities</b> 12:4	<b>administration</b> 1:4	195:19 196:12	29:13,22 33:16
<b>accepted</b> 152:11	40:22 71:7 83:18	4:7 141:9,12	205:15	<b>aid</b> 39:22 62:1
<b>access</b> 18:8 33:1	92:18 110:16	143:21 153:4	<b>after-action</b> 50:7	<b>aide</b> 61:21
34:3 46:6 78:19	262:7 263:11	172:19 180:11	<b>after-thought</b>	<b>aids</b> 40:14 61:20
247:2,4	<b>activity</b> 30:15	181:17 182:21	276:4	<b>aimed</b> 256:18
<b>accomplish</b> 51:11	66:13 67:14 81:7	183:2 188:14	<b>agencies</b> 35:20 36:3	<b>air</b> 51:3 66:15
58:12 259:1	239:3 240:4	<b>administration's</b>	36:16 37:17 56:13	234:3
<b>accomplished</b>	285:22	274:20	56:15 81:15,17,17	<b>aircraft</b> 126:1
106:5 139:15	<b>actual</b> 156:13	<b>administrative</b> 4:9	92:12 93:3 95:20	<b>airline</b> 7:13
152:4 232:11	278:21	5:1 195:15 229:10	102:18 106:2,9	<b>AIS</b> 217:22
<b>accomplishes</b>	<b>ad</b> 257:22	230:6 231:3	107:15 144:2,6,8	<b>Alabama</b> 167:3
233:21	<b>Adam</b> 2:7 3:9 7:8	<b>administrator</b> 8:16	146:19 152:1	<b>Alaska</b> 166:2 179:4
<b>account</b> 74:5 88:9	34:18 71:19	146:15 239:11	163:7 164:8 181:1	206:8,9,13,14
110:15	101:15 209:9	264:4,5 283:5,11	182:11,13 247:7	207:5 237:18
<b>accounted</b> 75:8	<b>Adams</b> 79:9	284:1 291:12	266:10	238:10 265:10
76:9	<b>adaptation</b> 14:14	<b>admirable</b> 180:8	<b>agency</b> 8:1,12,21	266:2
<b>accounting</b> 232:9	15:9 16:13 18:14	<b>Admiral</b> 50:22	10:8 12:5 75:12	<b>Alaskan</b> 67:15
<b>accrete</b> 121:17	19:12	<b>adopt</b> 19:1	110:7 137:15	<b>Alaskans</b> 240:4
<b>accumulation</b>	<b>add</b> 36:6 104:22	<b>adopted</b> 37:12 85:5	141:20,21 144:6	<b>alert</b> 78:21 91:7
122:14	111:3 124:19	<b>advance</b> 182:19	155:18,21 161:3	<b>Aleutians</b> 67:15
<b>accuracy</b> 62:13	131:6 148:2 149:1	185:8	180:22 188:16	<b>Ali'i</b> 84:18,19 86:14
	153:12 174:6	<b>advancing</b> 183:2	252:15 258:6	<b>allocated</b> 161:19

287:13 <b>allocation</b> 9:19 <b>allow</b> 11:12 227:13 <b>allowable</b> 170:5 230:15 <b>allowed</b> 11:8 75:8 81:11 173:17 <b>allowing</b> 48:21 <b>all-clears</b> 93:10 <b>aloha</b> 48:19 64:8 <b>alternate</b> 117:8 280:11 <b>alternative</b> 223:9 <b>alternatives</b> 12:17 131:13 <b>amazing</b> 99:10 <b>amend</b> 179:5 <b>amended</b> 177:12 <b>amendment</b> 177:18 <b>amendments</b> 85:3 85:4 <b>American</b> 24:7 28:2 39:21 40:1 43:19 70:10 79:6 <b>America's</b> 186:12 <b>amount</b> 39:17 42:18 45:8 55:20 130:20 161:13 164:18,20 259:17 288:11 299:17 <b>amplitude</b> 45:13 <b>analogy</b> 10:2 37:13 <b>analyses</b> 71:20 <b>analysis</b> 38:6 74:7 121:2 134:6 139:21 250:20 <b>analyzes</b> 147:4 <b>Andy</b> 280:13 <b>and/or</b> 48:17 256:2 <b>angle</b> 86:18 <b>animal</b> 6:8 <b>annual</b> 144:4 179:15 <b>annually</b> 88:21 142:6 <b>anomaly</b> 155:10 <b>answer</b> 49:10	137:20 158:21 173:3 220:12 229:20 231:18 259:13 <b>answered</b> 166:19 255:15 259:14 <b>answering</b> 259:9 <b>answers</b> 259:10 <b>anthropogenic</b> 30:15 <b>anticipate</b> 14:20 70:15 71:6,8 126:20 <b>anticipating</b> 212:17 <b>Antonio</b> 201:4 <b>anybody</b> 55:9 59:7 111:17 114:12 194:18 221:4 260:1 269:14 300:7 <b>anymore</b> 174:6 218:9 <b>anyone's</b> 298:3 <b>anyway</b> 7:20 238:12 241:15 285:7 <b>apologize</b> 79:8 106:11 <b>apology</b> 107:1 <b>apparent</b> 35:21 <b>appeal</b> 149:4 <b>appeals</b> 148:6 <b>appears</b> 233:16 <b>applicants</b> 273:17 279:10 <b>application</b> 37:1 <b>applications</b> 23:22 24:3 <b>applies</b> 262:8 <b>apply</b> 275:22 279:5 <b>appointed</b> 273:18 275:5 <b>appointing</b> 262:5 294:9 <b>appointments</b> 275:7 <b>appreciate</b> 47:17	59:21 99:16 107:2 107:3 122:5 188:12 281:1 299:3,11 <b>appreciated</b> 294:5 <b>approach</b> 255:5 256:1 <b>approaching</b> 108:5 <b>appropriate</b> 65:8 65:10 93:5 170:5 172:3 <b>appropriated</b> 155:5 164:18 <b>appropriately</b> 91:20 166:13 <b>appropriation</b> 163:22 164:15,18 <b>appropriations</b> 140:13 141:4 142:12 153:22 154:17 156:13 161:1,7,20 162:8 163:11,21 164:7 164:15,22 165:4 166:12 176:1 188:3,5 <b>approval</b> 107:16 109:5 <b>approved</b> 99:19 112:20 <b>approves</b> 152:17 <b>Apra</b> 32:6 44:21 <b>April</b> 54:17 81:9 146:10 154:5 155:11 157:16 160:1,11,15 197:6 <b>Aquatic</b> 9:15 <b>archipelago</b> 9:8 <b>archipelagos</b> 25:9 <b>archive</b> 195:2 <b>Arctic</b> 54:14 166:5 166:6 179:8,13 180:2,6 183:3 193:7 237:21 238:16 239:18 240:11,16 265:9 265:11,22 266:1	287:3,13 <b>area</b> 20:7 21:9 24:9 26:18 30:5,7,10 30:12 32:8 37:5 41:12 42:11 49:19 50:1,5 51:4 55:4 83:16 94:8 108:4 109:11,13 110:8 128:3 208:12,13 210:7 214:5 235:3 242:17,20 243:16 253:2 268:5 284:20 289:18 <b>areas</b> 9:14 11:8 13:22 15:22 16:4 19:7 25:22 27:4 30:8 38:5 44:7 61:2 62:8 69:1,11 70:4,5 71:14 85:22 93:2 110:12 122:15 196:16 207:9 225:2 240:18 241:18 242:3 244:8 247:12,16 254:9 266:22 267:19 280:8 <b>arena</b> 240:12 <b>argue</b> 120:16 <b>arguing</b> 156:22 <b>argument</b> 122:1 161:8 174:6 <b>arguments</b> 222:16 <b>Arkansas</b> 168:13 168:14 <b>arms</b> 72:11 80:19 251:9 <b>Army</b> 2:21 35:19 182:14 185:8 270:7,10,11 <b>arrange</b> 198:8 <b>array</b> 46:7 <b>arrival</b> 82:2 91:13 <b>arrivals</b> 92:5 <b>arriving</b> 82:6 <b>ARTHUR</b> 2:12 <b>articulate</b> 37:14	<b>articulated</b> 31:7 <b>aside</b> 176:1 <b>asked</b> 287:4 290:2 <b>asking</b> 258:5,5 277:13 298:9 <b>aspects</b> 134:14 163:19 263:9 <b>assessing</b> 29:4 <b>assessment</b> 83:13 85:14 118:11,16 123:1 232:10 <b>assessments</b> 88:10 118:18 <b>asset</b> 29:12 33:16 39:16 52:22 54:4 54:7 <b>assets</b> 51:3 54:1,2 54:10 55:20 119:22 123:15 213:3 <b>assist</b> 53:8,12,13 <b>assistance</b> 52:7,16 65:20 68:14 73:19 73:19,20 74:21 75:5,15 79:19,21 81:12,14 82:17 <b>associated</b> 122:10 <b>Association</b> 213:15 <b>associations</b> 245:16 245:22 275:11 <b>assume</b> 298:11 <b>assuming</b> 121:1 150:14 <b>assurances</b> 65:7 <b>Asthmatics</b> 66:18 <b>astonished</b> 101:19 <b>astronauts</b> 239:10 <b>Atlantic</b> 31:20 213:11 <b>atlas</b> 20:2 <b>atmospheric</b> 1:3 4:6 143:3 <b>atolls</b> 25:15 <b>attend</b> 174:21 201:18 <b>attendance</b> 261:4 <b>attended</b> 255:7,8
---	--	--	--	--

<b>attendees</b> 297:16 297:19 298:12	<b>a.m</b> 1:16 4:2 90:16 94:13 139:5,7,8 <b>A1092</b> 26:9	<b>band</b> 57:18 <b>bang</b> 244:13 277:22	33:18 89:18 121:14,22 134:1 223:5 247:2 248:2 289:9	<b>benthic</b> 2:6 3:7 21:22 22:15 33:10 44:2 138:2
<b>attending</b> 171:4	<b>B</b>	<b>bank</b> 26:1,2	<b>battened</b> 94:6 95:8	<b>berthing</b> 284:20
<b>attention</b> 34:22 35:9 105:13 177:22 212:21 213:5 264:4 289:5	<b>back</b> 16:16 18:12 19:11 31:15 37:10 51:16 59:9,19,20 60:8 68:4 74:10 77:2 85:19,20 86:8 91:22 95:17 96:1 100:9 105:16 105:19 106:22 116:2 120:19 129:15 131:11 136:12 139:5 140:16 145:3 147:17 148:4 149:4 151:7,15 156:2 167:17 168:11 169:15 175:8 191:19 195:2 201:7,22 207:8 218:12 219:13,14 220:12 225:8,15 231:9 232:21 241:21 248:7 250:11 259:2 263:22 284:13 290:8	<b>banks</b> 25:14,15,20 26:4 <b>bar</b> 116:5,7 <b>Barbara</b> 174:10 <b>Barber's</b> 132:5 <b>barge</b> 117:20 <b>bars</b> 208:8 217:13 <b>base</b> 214:22 268:1 <b>based</b> 17:9 65:22 67:2,19 75:15 79:17 88:10 92:4 93:6 94:4 118:10 125:7 148:13 173:20 250:20 251:5,11,13 269:10 279:20 280:6 <b>baseline</b> 137:10 236:11,19,21 <b>basic</b> 23:15 <b>basically</b> 17:5,7 58:3 94:2,5 131:1 132:9 155:22 160:16 161:14,19 163:12 165:13 177:13 194:22 292:15 <b>Basin</b> 246:13 289:18 <b>basis</b> 14:7 58:18 59:14 67:20 105:20 135:3 215:16 251:3 285:17 <b>bathtub</b> 290:9 <b>bathy</b> 236:13 252:13 <b>bathymetric</b> 31:2 43:16 <b>bathymetrical</b> 33:17 <b>bathymetry</b> 23:2 24:4,14 30:7 32:7	<b>battering</b> 86:2 <b>bay</b> 84:2 89:9 167:3 185:2,3 186:11 212:2 284:14 293:17 <b>beach</b> 1:15 11:19 11:20 12:18 13:13 14:12,12 15:7,11 15:11 16:11,16,17 17:21 18:3,8,22 20:10 30:13 84:10 121:6,7,8 208:16 208:19 215:12,18 216:5 <b>beaches</b> 11:18 12:4 12:8 16:4 121:2 121:17,19 <b>beach-front</b> 19:14 <b>beam</b> 25:20 <b>bear</b> 48:16 <b>beat</b> 299:13 <b>beautiful</b> 86:17,19 <b>becoming</b> 29:10 <b>beds</b> 91:18 <b>beef</b> 293:8 <b>began</b> 35:16 232:22 <b>beginning</b> 156:20 <b>behalf</b> 41:8 48:20 60:21 299:14 <b>behave</b> 43:12 <b>behold</b> 4:13 <b>believe</b> 27:13 53:16 68:4 83:12 99:19 122:7,17 135:5 194:22 223:17 230:22 280:16 <b>benchmarks</b> 17:12 <b>beneficial</b> 44:1 103:16 <b>benefit</b> 6:7 9:2 47:9 80:21 185:14 247:9,21	<b>best</b> 18:9 197:3 201:13 215:18 224:16 <b>bet</b> 88:22 <b>better</b> 23:12 61:16 62:10 63:18 72:5 77:7,8 81:1 85:2 85:18 86:13 88:11 97:16 98:10,14 106:12 121:19 122:8,21 123:11 126:7 127:22 139:13 167:22 168:1 198:1 206:16,20 219:18 225:21 245:10 252:10 276:15 290:7 291:4 <b>beyond</b> 69:10 177:21 294:17 <b>Bicentennial</b> 186:12 <b>big</b> 21:6 58:8 66:19 73:10 87:13 108:19 109:12 111:19 112:13 113:20 116:14 124:8 127:3 161:4 163:13 193:5 203:1 211:15,22 213:20 214:7 218:21 236:2 245:21 260:14,18 263:14,14 270:17 272:3 <b>bigger</b> 264:20 <b>biggest</b> 183:11 235:2 <b>bill</b> 18:22 162:10 163:13 179:5,9 294:1,2 <b>billion</b> 121:9 <b>bills</b> 163:11,20,21

164:16,18 <b>bin</b> 279:20 <b>bins</b> 257:12 258:13 <b>biological</b> 23:9 30:11 133:21 134:7,14 135:6,22 138:10 <b>biologically</b> 23:3 <b>biologists</b> 137:4 <b>bit</b> 5:16 22:9,10 35:13 41:6 52:3 86:18 101:11 124:20 126:14 139:13,22 140:11 147:12 155:10 192:4,21 196:8,12 199:1,4 208:13 225:1 229:11 233:13 234:15 240:7 241:7 244:1 254:15 258:17 262:16 264:16 273:15 276:11 283:20 286:13 287:6 293:2,9 297:4 <b>bite</b> 267:2 <b>bitter-sweet</b> 86:16 <b>BLACKWELL</b> 2:10 252:9 <b>blank</b> 77:16 <b>BLCC</b> 202:18 <b>BLM</b> 10:1 <b>block</b> 211:7 <b>blocks</b> 18:7 <b>blown</b> 124:6 <b>blue</b> 30:6 <b>blueprint</b> 15:8 <b>board</b> 30:22 33:3 33:13 56:20 68:19 182:10,12 257:20 258:9 282:19 <b>boarders</b> 56:4 <b>boarding</b> 34:10 <b>boards</b> 57:2,3 259:5 <b>boat</b> 42:1 51:19	57:10 58:21 88:2 88:15 95:8 98:16 99:9,13 101:16,22 103:20 104:9 108:12 112:8 114:1 129:15 217:20 <b>boaters</b> 96:19 97:10,14 99:12,17 100:1,18 101:5,17 101:20 103:11 104:3,15 <b>boating</b> 42:4 88:17 98:5,15 99:15,18 100:16 110:16 <b>boats</b> 42:10 88:6,16 92:16,17 93:12 96:3 97:2,11 98:21 101:21 102:3,5 104:19 114:10 181:22 <b>BoatUS</b> 51:16 <b>Bob</b> 2:19 96:7,13 <b>bodies</b> 64:22 <b>body</b> 230:7 <b>bogged</b> 231:7 <b>bold</b> 165:12 233:3 <b>bolded</b> 165:13 <b>bolts</b> 142:13 <b>bombard</b> 269:17 269:19 <b>bond</b> 42:17 57:1 98:7 102:13 113:4 <b>bonds</b> 113:1 <b>book</b> 59:10 110:17 <b>bores</b> 83:8 85:21 <b>bottom</b> 26:14 42:6 127:10 135:2 136:16,17 142:22 <b>Bradley</b> 2:11 139:15,17,19 145:8,14,17 153:16 157:3,8 158:7 159:3,15 165:13,17,20 166:14 167:6 169:5,17,21 170:2	170:19 172:1 175:18 176:6 189:9,14 190:22 194:8 195:8 212:15 260:4 292:11 294:4 <b>brain</b> 241:9 <b>Branch</b> 8:22 <b>break</b> 139:4 204:15 204:17 261:9 <b>Breaker</b> 54:22 <b>Breaking</b> 54:19 <b>breath</b> 66:20 <b>brief</b> 13:17 49:6 136:2 183:5 <b>briefing</b> 170:21 233:1 <b>briefings</b> 149:21 184:15 <b>BRIGHAM</b> 1:19 119:19 120:6 122:4 165:21 168:10 193:1 202:2,17,21 203:3 206:17,22 210:18 211:2,4,10,12,18 214:21 215:5,7 216:16,21 217:2 237:13 270:3,20 271:4 281:4,10,19 282:9,14,20 286:7 287:2 292:1 294:11 295:5,11 295:13 <b>bring</b> 35:18 42:19 46:10 111:6 177:22 229:2 230:11 249:4 251:7 262:21 270:1,2 <b>bringing</b> 92:11 194:17 235:6 <b>brings</b> 25:17 32:17 <b>broad</b> 30:6 254:21 258:22 <b>broadcast</b> 52:16 <b>broadens</b> 41:1	<b>broader</b> 20:1 294:16 <b>broadly</b> 190:2 <b>brought</b> 51:17 243:13 259:12 265:1 270:4 276:14 289:11 <b>buck</b> 244:14 <b>budget</b> 3:16 26:21 26:22 79:14,14 139:13,20 140:1,4 140:7,8,12,19 141:1,4,14,19,20 142:1,3,5,10,11 142:13 143:7,9,13 144:1,10,16 145:1 145:5,10,12,18,19 146:2,5,7,9,11,12 146:21 147:2,11 147:20 148:14,17 148:18,20 149:6,9 149:16,19 150:1,3 150:17,21 151:5 151:14,18 152:2,2 152:3,9,18 153:3 153:5,6,7,10,15 153:19 154:2,7,18 155:15 156:1,7,9 156:10,10,15,19 158:15 159:16,18 159:19 160:16,19 161:9,18 162:3,5 162:12 163:7 165:6,10 169:7,10 187:19 188:2,9 193:2,15,19 194:2 197:2 243:11,16 264:7 <b>budgets</b> 121:16 134:12 160:2 186:5 <b>build</b> 12:12 16:10 32:8 109:6 181:10 255:19 <b>building</b> 12:15 16:17 40:6 72:12 85:2	<b>builds</b> 41:1 <b>built</b> 55:16 84:6 109:2,8 245:5 <b>built-ins</b> 72:13 <b>bulk</b> 177:4 <b>bullet</b> 43:16 106:3 107:4 <b>bullets</b> 294:13 <b>bump</b> 7:14 <b>bunch</b> 147:6 294:21 <b>buoy</b> 119:22 133:1 <b>buoys</b> 60:17 82:1,1 128:8 <b>burning</b> 286:4 <b>business</b> 16:6,7 82:7 111:10 170:16 226:2,22 232:13 <b>busy</b> 13:3 <b>BUTO</b> 2:12 <b>butts</b> 170:18 <b>buy</b> 20:14,16 <hr/> <b>C</b> <b>C</b> 74:22 75:10 <b>Cabinet</b> 264:5 <b>cabinet-level</b> 182:9 <b>cable</b> 111:5,13 112:11 <b>calculated</b> 17:2 <b>calculations</b> 136:7 <b>calendar</b> 145:21 163:16,17 197:18 199:10 <b>calendars</b> 219:20 <b>calibration</b> 44:18 <b>California</b> 114:19 <b>call</b> 4:4,15 34:22 35:8 36:10 52:15 61:3 123:20 144:14 148:2 150:5 209:14 275:20 <b>called</b> 6:8 7:6 10:3 14:12 94:18 124:20 147:16
--	---	---	---	--



229:12	<b>CAROTHERS</b>	4:3 5:5 6:2 7:11	228:13,19 229:13	<b>change</b> 13:5 14:14
<b>calling</b> 100:17	1:20 214:6 243:6	8:5,14 21:15 34:8	229:16,20 231:5	26:16 52:2 74:4,5
169:3	278:20 279:3	34:14 47:16 48:3	231:21 237:8,11	76:8,10,13 151:8
<b>Canal</b> 213:22	<b>carriage</b> 178:6	48:10 51:18 64:1	240:20 243:4	214:2 237:1
<b>canoe</b> 37:14,16	<b>cartoon</b> 241:7	64:7 87:7 88:18	244:15,19 245:11	<b>changed</b> 12:12
<b>capabilities</b> 43:7	<b>case</b> 35:6 70:16	96:11 99:7 103:18	246:4,6 247:20	108:22 147:22
44:17	91:12 98:3,22	104:20 105:5	249:6,7,9 252:7	153:9
<b>capable</b> 247:22	119:11 123:20	111:14 112:6	254:13 257:6	<b>changes</b> 18:8
<b>capacity</b> 40:6 43:6	296:21	113:9 119:17	259:22 260:21	<b>channel</b> 63:14,18
109:6 214:2	<b>cases</b> 31:18 118:12	120:17 122:6	265:19,19 268:13	217:21
<b>Cape</b> 89:17 132:5	205:8	123:5,13 127:12	268:19 269:8,21	<b>channels</b> 27:19
<b>capital</b> 119:1	<b>cast</b> 207:19	128:15 130:10	270:18,21 271:5	57:21 63:11,12
<b>CAPT</b> 1:21,22 2:14	<b>Castle</b> 112:19	131:5,8,22 132:19	271:19 272:4,9,10	217:21
2:16 5:8 135:1,18	<b>catastrophic</b> 68:1	133:6,15 134:16	272:10,13,16,17	<b>chaos</b> 114:13
136:8 137:19	82:12	137:11,17 138:16	272:21 273:9	<b>chapters</b> 75:20
159:13 173:4	<b>catch</b> 71:3 218:3	139:9 150:10	274:2,13 276:19	<b>characterize</b> 138:9
191:11,18 194:18	<b>caught</b> 105:12	156:16 158:6	277:12,20 278:4	<b>characters</b> 207:20
199:15 213:18	<b>causal</b> 60:11	167:1,13,16 168:6	278:15,18 279:1,4	<b>charge</b> 50:22
214:13 218:13	<b>celebrate</b> 186:11	169:1 170:18	281:3,12 282:12	<b>charged</b> 188:6
219:2,22 220:4,8	<b>center</b> 2:6,18,20	171:18 172:2,11	282:21 283:7	<b>Charles</b> 209:9
220:11 227:10,20	3:8 21:21 22:1,8	173:22 174:19	287:1,14,15	<b>chart</b> 26:7,8,9 32:5
228:11 230:2	22:10 38:14,15	176:4 182:11,15	288:21 289:10,20	32:7 58:15 124:7
254:14 257:9	58:17 91:8 133:13	182:16,18 189:2	290:16,22 292:8	124:9 141:17
279:8 281:15	136:10	190:14,19 191:3	292:13 293:11,22	142:18 257:15
282:6,17 296:20	<b>centimeters</b> 17:16	191:20 192:18,20	295:3,7,12,14,17	<b>charted</b> 26:1
<b>Captain</b> 5:5 48:20	17:18	192:21 193:21	296:2,4,11 297:2	<b>charting</b> 240:4
48:20 50:1,20	<b>certain</b> 159:2	194:11 195:5,10	298:1,6,18 299:1	251:3 294:6
60:21 93:21	226:21 258:6	195:14 196:2	299:12	<b>charts</b> 25:21 26:5
106:13 179:10,21	290:13 293:19	197:9 198:22	<b>chaired</b> 38:7,17	58:13,16 178:6
190:4 201:21	<b>certainly</b> 11:12	199:17,21 200:6,8	265:13	269:2 293:20
206:12 207:22	47:9 83:19 88:5	200:13,15,20	<b>Chairman</b> 47:6	<b>chatter</b> 57:20
296:6,13,19 297:5	100:8 107:19	201:8,15,19 202:9	105:8 106:13	133:20
299:20	111:12 121:12	202:20 203:1,4,10	246:5	<b>cheaper</b> 29:13
<b>capture</b> 153:18	123:2 131:20,20	203:13 204:12	<b>challenge</b> 169:6,11	<b>check</b> 117:12
187:19	137:22 142:18	205:13,20 206:1	183:16 192:5	194:12 277:17
<b>card</b> 137:20	171:1 181:5	206:19 207:3	222:13 233:1	<b>checks</b> 166:16
<b>care</b> 9:14,15,17	185:19 189:15	208:5 209:3,8,12	237:5 267:1	<b>Chesapeake</b> 185:3
16:2 53:1 60:4	220:18 222:16	210:14,17 211:1,3	<b>challenges</b> 20:18	186:11
65:20 216:13	223:3 234:10	211:9,11,17,20	21:6 25:7 183:11	<b>Cheung</b> 85:8
<b>careful</b> 238:3	250:9 251:21	212:5,8,11 213:16	188:1 197:10	<b>chew</b> 267:3
<b>cares</b> 16:1	253:7 260:13	214:9,10,19 215:4	<b>challenging</b> 21:12	<b>chewing</b> 234:20
<b>cargo</b> 116:12 117:9	290:20	215:6,10,19,22	28:4	<b>Chief</b> 146:13
<b>Caribbean</b> 31:20	<b>certainty</b> 275:4	216:4,20 217:4,9	<b>champions</b> 184:1	<b>children</b> 71:10
214:7,14,16	<b>CFR</b> 94:19	218:8 219:1,6,12	<b>chance</b> 63:18 83:16	<b>Chile</b> 67:14
<b>Carlson</b> 2:12 39:13	<b>chain</b> 187:9 280:16	220:14,21 223:11	161:5 191:21	<b>Chip</b> 17:4
299:10	<b>chains</b> 156:3	224:4 225:6	208:22 221:9	<b>choose</b> 221:13
<b>Carolina</b> 166:9	<b>chair</b> 1:16,18,19	226:19 227:3	<b>Chancellor</b> 238:10	<b>choppy</b> 86:18

<b>chose</b> 275:2	229:7 231:15,15	293:22	210:8 214:11	254:15 257:8
<b>chosen</b> 30:4	249:16	<b>coconut</b> 86:20 87:1	215:2,13 223:17	260:7,22 298:20
<b>Christi</b> 209:17,19	<b>closely</b> 13:1 81:3	<b>code</b> 74:1 85:3	225:4,8,15 250:1	<b>commerce</b> 1:1
212:1 218:5	<b>closer</b> 54:11 91:15	178:4	254:22 257:12	49:14 50:9,17
<b>circle</b> 187:2	<b>club</b> 87:15	<b>coffee</b> 140:16	258:20 259:2	62:3 141:22 142:1
<b>circulate</b> 267:20	<b>clustered</b> 125:14	<b>coincides</b> 18:20	261:5,11 274:9,10	143:9 144:12,22
269:9 291:17	<b>CMDR</b> 48:8,11	179:16	280:10 283:21	145:18 146:22
<b>circulated</b> 287:17	51:20 90:13 93:15	<b>collaborate</b> 37:20	285:19 300:1	147:2,10,15,19
<b>circulation</b> 223:6	114:15 120:4	<b>collaboration</b>	<b>comes</b> 49:13 50:6	148:13 150:6,7
<b>circumstances</b> 60:7	122:19 123:12,16	36:21	50:14 56:13 61:7	151:13,13 159:20
94:18 227:7	132:7,22	<b>collaborations</b>	93:18 96:18	164:10 165:2
<b>circumvent</b> 230:19	<b>CMSP</b> 258:9	39:12	155:22 162:4	167:8 170:21
<b>cities</b> 218:17	293:21	<b>collaboratively</b>	184:10 185:12	176:9 232:20,20
<b>citizen</b> 171:7	<b>coast</b> 2:3,19 3:12	185:7	285:6 296:16	<b>commercial</b> 11:13
172:22 270:8	24:20 40:12,12	<b>colleague</b> 47:15	<b>comfortable</b> 45:12	32:19 42:10 56:22
<b>citizenry</b> 65:6 72:6	42:15 44:15 47:15	129:4	<b>coming</b> 5:12 27:8	57:22 82:14 93:17
<b>civil</b> 2:4 3:14 64:3	48:4 51:21 58:15	<b>colleagues</b> 39:20	33:8 61:10 81:13	93:18 94:11 97:19
64:11,15 66:11,22	58:19 59:1,10,12	140:7	85:17,19 93:13	106:19 110:16
68:7 71:21 75:12	62:9 92:12,14	<b>collect</b> 23:1 31:2	95:21 151:18	114:1 226:1
79:12 91:5 92:6	93:16 97:17 98:13	32:3,12,19 33:16	168:1,2 182:2	<b>commission</b> 9:18
92:11 95:19	99:10,14 100:16	135:12 136:12	215:16 253:12	116:4 237:21
<b>CJS</b> 165:5	101:3 113:18	137:7 256:3	255:16 275:21	<b>commit</b> 219:20
<b>claim</b> 76:6 171:2	114:7 116:20	<b>collected</b> 23:10	281:13 283:19	<b>commitment</b> 40:9
<b>class</b> 272:11 274:14	119:20 126:8	29:22 106:8 247:3	299:4	79:21
274:15,16,17	168:22 177:9,16	<b>collecting</b> 247:15	<b>command</b> 58:17	<b>commitments</b>
<b>clear</b> 64:17 180:9	178:14 182:14	255:5 256:1	<b>Commandant</b>	199:13
190:8 206:7	210:22 216:1	<b>collection</b> 33:22	54:17	<b>committed</b> 36:17
227:11 263:5	222:7 256:5	39:5 80:22 239:7	<b>Commander</b> 48:4	<b>committee</b> 6:9
287:15	<b>coastal</b> 2:1,5 3:3,5	<b>collective</b> 204:6	64:2 96:14 122:18	150:9 161:1,7,18
<b>cleared</b> 94:5,12	5:11 7:7 8:17	<b>collectively</b> 263:18	123:6 132:3	162:16 164:7,9,10
<b>clearing</b> 40:2	10:4 11:22 13:2	<b>Colonel</b> 271:7	270:22	164:22 165:4
<b>clearly</b> 80:20	13:14,15 14:18,21	<b>colored</b> 30:7	<b>comment</b> 5:8 7:5	166:1,2,12 167:13
<b>clicker</b> 14:9	15:1 16:4 18:1,18	<b>colorful</b> 70:8	57:12 102:22	167:17,18,19,20
<b>climate</b> 2:18 14:14	19:2 20:4,8,10,12	<b>color-coded</b> 29:21	118:5 133:14	167:21 176:2,9,13
15:8 20:19 36:19	28:12 30:18 31:8	<b>Columbia</b> 116:3	180:21 205:5	176:14,15,19
46:17 76:7,9	31:13 34:1 36:18	<b>column</b> 167:4	212:16 249:11,13	177:2,4 180:1
130:13 157:20,21	46:8,13,16,20	<b>combination</b> 187:8	249:15 257:10	182:7,9,20 194:19
206:17 237:1	70:4 85:22 93:1	<b>come</b> 12:11 14:8	267:21 276:18	224:11 230:15
248:14	108:6 109:17,22	15:18 27:18 47:20	298:22 300:8	232:4 237:4
<b>Climatic</b> 2:17	126:12,18 133:18	48:14 59:8 60:16	<b>commenters</b>	261:13 273:17
<b>close</b> 30:16 57:21	138:19 166:8,11	71:8 75:4 83:9	249:12	278:21 283:12
105:10 229:22	168:8,8,13,17	89:4 96:11 115:7	<b>comments</b> 6:12 8:8	<b>committees</b> 142:10
231:5	181:4 185:14	117:12 133:10	21:17 22:11 27:7	142:12 153:22
<b>closed</b> 116:6,7	189:6,18 190:6,10	137:5 140:16	41:21 99:16	154:1 160:16
117:10 227:4,12	213:9 222:14	150:2 175:2 178:3	100:13 108:12	164:12 176:3,12
227:14,18 228:3,5	223:10 239:2	193:14 198:11	130:10 133:7	193:12 262:6
228:8,10,17,17	253:1 254:2 270:9	204:20,21 207:1	231:22 237:10	<b>common</b> 67:12

<b>communicate</b> 58:5 97:18	187:21 211:8	274:11	136:19	77:11
<b>communicating</b> 100:14 101:9	<b>compliment</b> 105:8	<b>confirmed</b> 201:2	<b>consideration</b> 125:6 162:18	<b>continues</b> 74:19 86:7 92:7
<b>communication</b> 138:22	<b>comply</b> 291:7	<b>conflicts</b> 261:7	207:21 232:16	<b>continuing</b> 19:7,22 139:2 154:20,20
<b>communications</b> 38:16 62:12	<b>component</b> 176:21 181:7,8	<b>confusion</b> 242:18 253:10	<b>considerations</b> 131:19	155:14 157:5,7,15 158:19 163:4
<b>communities</b> 13:14 20:11 23:9 37:3 68:17 76:20	<b>components</b> 186:19	<b>Congress</b> 54:16 141:12 142:6,9 143:22 144:18 149:11,20 150:22 151:21 152:11,12 152:16,20 153:1,1 153:2,20 154:16 156:4,20 157:13 158:9,12 160:3,5 160:9 163:19 164:3 171:13 172:20 173:13 174:1,14 175:2,19 179:1,3 183:13,17 183:22 188:14 189:21 193:13 213:2 294:2	<b>considered</b> 112:14	<b>continuity</b> 65:11
<b>community</b> 15:12 15:18 16:18,20 41:7 42:5 45:12 47:8 55:12 56:18 62:1 78:1,11,19 83:18 84:16 89:5 89:8 98:5 138:4 215:9	<b>composing</b> 291:16	<b>consist</b> 54:20	<b>consistency</b> 135:7	<b>contract</b> 120:13
<b>commute</b> 82:7	<b>composition</b> 294:12	<b>consistent</b> 135:13 236:21	<b>consists</b> 182:10	<b>contractors</b> 107:15 256:20
<b>compacts</b> 251:16	<b>comprehension</b> 82:13	<b>consortium</b> 36:15	<b>constituent</b> 170:10 170:15 185:19 186:3	<b>contribute</b> 24:16 263:14 275:12
<b>company</b> 101:21 108:21	<b>computer</b> 124:20	<b>constantly</b> 189:8	<b>constituencies</b> 52:4	<b>contributed</b> 262:16
<b>comparative</b> 78:15	<b>concatenate</b> 134:2 134:10,17	<b>constituent</b> 170:10 170:15 185:19 186:3	<b>constitute</b> 230:4 258:14	<b>contributes</b> 263:15
<b>compared</b> 178:9	<b>concentrate</b> 196:17 221:14 225:14 226:20	<b>Congressional</b> 140:13 145:6,12 168:9 173:19 174:20 184:13 194:12	<b>constituents</b> 141:11 161:4 166:20 169:2 187:12 188:11 189:1	<b>contributions</b> 239:20 269:10
<b>comparing</b> 89:13	<b>concept</b> 112:13,14 112:14 193:11 259:20	<b>connected</b> 264:9,20	<b>constructed</b> 212:7	<b>contributors</b> 6:18
<b>compel</b> 209:19	<b>concern</b> 26:21 135:15 137:13 235:3	<b>consensus</b> 17:5 218:14 255:15	<b>construction</b> 14:22 18:18 19:2,3 30:18 60:20 61:8	<b>control</b> 39:18 40:8 44:6 75:13 165:6 166:15 169:6,9,13 230:21 250:21 290:7
<b>compelling</b> 122:1	<b>concerned</b> 11:17 98:19 179:12 271:15 293:2	<b>consequences</b> 157:5	<b>contacts</b> 32:15 297:10	<b>controversial</b> 112:15,17 158:2
<b>compensation</b> 34:11	<b>concerns</b> 57:5 107:11	<b>conservation</b> 2:4 3:5 8:17 10:4,6 11:4,7,20 19:16 22:20 120:20	<b>contact</b> 209:10 298:3,8	<b>convene</b> 265:12
<b>complacent</b> 71:7	<b>conclude</b> 237:9	<b>conserve</b> 9:1	<b>container</b> 202:19	<b>convention</b> 218:21
<b>complementary</b> 39:1	<b>concluded</b> 283:4 300:14	<b>consider</b> 29:8 30:22 33:3,14 110:11 213:20 236:17 294:7	<b>containers</b> 117:17	<b>convince</b> 151:10,11 151:12,14
<b>complemented</b> 39:1	<b>conclusion</b> 207:4	<b>considerably</b>	<b>context</b> 22:11 130:18	<b>convinced</b> 246:22
<b>complete</b> 62:14 176:10	<b>condemnation</b> 19:17		<b>continually</b> 78:2 73:18 164:4 196:5 255:4 261:14 263:19 264:11	<b>cookbook</b> 20:6
<b>completed</b> 14:14 29:2 118:12 121:5	<b>condition</b> 11:17		<b>continued</b> 66:2	<b>Cooke</b> 112:19
<b>completely</b> 87:16 171:20 172:3	<b>conditions</b> 274:4			<b>cool</b> 293:10
<b>completion</b> 109:8	<b>conducted</b> 83:13			<b>cooperate</b> 57:8
<b>complex</b> 193:3 259:20	<b>conference</b> 81:5 201:3			<b>cooperation</b> 246:21 248:7
<b>complexity</b> 193:2 253:8	<b>conferenced</b> 162:22			<b>cooperations</b> 51:5
<b>complicated</b>	<b>confidently</b> 290:4			<b>cooperative</b> 49:16 56:8 106:18
	<b>confines</b> 170:6			<b>coordinate</b> 37:20 92:8
	<b>confirmation</b>			<b>coordinates</b> 141:20 149:13
				<b>coordinating</b> 92:19 92:20 102:15 182:8,10,12 256:17

<b>coordination</b> 19:19 36:11,22 38:4 68:15 91:9 242:11 242:15,21 243:3 256:16	48:14 55:17 62:6 97:4 100:7,11 104:10,14 108:18 133:19 141:6 157:20 158:17 167:2 174:9 175:1 175:3 186:14 195:18 204:16 208:8 209:13 218:16 220:15 222:10 250:1 252:9 254:14 260:22 281:7 284:12 285:20 288:17 294:13	<b>critical</b> 27:4 30:20 31:4 33:17 45:17 66:1 69:14 70:4 71:12 73:6 75:11 77:14 83:18 86:10 92:15 107:13 118:15 181:8 223:20 235:8 288:8 <b>critique</b> 234:10 <b>cross</b> 132:13 238:19 239:15 <b>crossed</b> 30:3 <b>crossing</b> 125:18 <b>cross-functional</b> 193:4,17 <b>crucial</b> 244:7 <b>cruise</b> 282:15,18 284:19 <b>cumbersome</b> 76:2 <b>Cup</b> 186:13 <b>curious</b> 108:2 248:13 <b>current</b> 26:8 45:9 45:15 61:12 126:4 126:7 131:1 179:2 179:3 223:2 231:19 279:21 282:3 <b>currently</b> 128:11 182:16 <b>currents</b> 121:15,22 122:9,12 124:3,13 124:22 125:7,8,20 126:11,12 127:17 128:4,10 129:10 131:15 132:14 223:5 <b>customer</b> 256:16 <b>customers</b> 244:3 <b>cut</b> 63:12 77:5 <b>cuts</b> 148:7 <b>cutting</b> 135:10 288:13 <b>cycle</b> 140:19 141:2 197:2 <b>C-O-N-T-E-N-T-S</b>	3:1 <b>C-130s</b> 51:3 <hr/> <b>D</b> <hr/> <b>D</b> 269:2 <b>dah</b> 278:11,11,12 <b>daily</b> 58:18 59:14 71:7 244:3 <b>damage</b> 29:5 83:11 85:1 87:19 88:16 116:17 117:4 119:5 <b>damaged</b> 133:4 <b>damaging</b> 28:20 <b>dangerous</b> 140:5 <b>dark</b> 30:6 63:8 <b>DART</b> 71:12 81:22 82:1 <b>data</b> 2:17 13:3 23:7 23:10 24:1,16,18 24:21 25:13 26:10 26:15 27:4 28:17 29:1 30:20 31:4 31:18,21 32:4,12 32:19,21,22 33:17 33:22 34:4 38:5,9 38:10,11 41:15 43:17,21 46:8 60:1,2,9,15 61:19 62:14,19 63:6,16 77:12 79:3 80:22 105:14 106:2,7,17 122:20 123:3,17 124:2,17 126:7 127:15 128:2,7,12 128:18 130:6 133:22 135:12 136:19 137:7 138:15 223:18,22 224:1 239:7 242:7 242:7 244:6 247:15 248:15 252:21 259:16 276:8 289:7 <b>database</b> 106:2 <b>data-sharing</b> 33:5 <b>date</b> 183:14	<b>dated</b> 54:16 <b>datum</b> 250:22,22 <b>datums</b> 253:7,11 253:19 <b>David</b> 1:22 111:14 113:11,12 191:3,4 205:3 240:21 243:5 269:15 276:19 290:16 <b>Dawn</b> 2:4 3:13 64:3 64:9 122:7 <b>day</b> 4:4 5:10 26:7 56:11,11 91:16 149:19 190:12 191:22 198:21 202:6,7 204:8,10 204:14,21,22 205:7,8,17 211:13 215:14 228:16,17 229:7 258:11 285:14,15 <b>days</b> 5:9 6:6 40:15 48:6,13,18 53:20 54:4,5 62:17 65:21 97:4 100:7 139:12 167:2 171:6 192:15 198:16 199:8 202:3 204:16 205:5,11 221:8 224:13 228:4 297:17 <b>day-to-day</b> 14:7 260:12 263:10 <b>deal</b> 96:19 98:18 114:14 118:4 152:19 223:6 240:15 284:15 <b>dealing</b> 12:3 126:11 222:8 238:14 <b>dealt</b> 237:20 <b>dearth</b> 208:2 <b>debris</b> 75:4 122:13 122:15 <b>decade</b> 16:8 <b>deceiving</b> 75:20
--	---	--	--	---

<b>December</b> 149:14 155:6	<b>delineating</b> 23:6	<b>derelict</b> 111:18 113:7	17:11 45:2 85:9 100:17 129:8 149:10	210:3,15 220:6,9 220:18 221:20 269:5 289:2 290:12 292:3 293:10,21 295:21
<b>decent</b> 180:7	224:21	<b>describe</b> 14:6 31:11 145:1 150:3 157:4 164:11 239:19 240:15	<b>developing</b> 19:18 38:11 144:1 145:22 146:2,4,7 159:17 180:17	<b>direction</b> 18:6 37:19 132:16 144:7 255:1 280:3
<b>decided</b> 158:13 291:5,6	<b>delivery</b> 37:1	<b>described</b> 156:3	<b>development</b> 11:1 13:11 16:15,16 18:16 19:8,10 20:9 36:22 44:8 45:21 47:1 111:10 180:20 213:10 254:6	<b>directions</b> 243:8 256:22 291:20
<b>decision</b> 38:6 155:2 198:5,7 204:6 218:10 219:3 220:19 272:22	<b>demarcation</b> 175:14	<b>design</b> 100:9 119:1 131:13,19	<b>developments</b> 11:13,13 252:19	<b>directive</b> 109:18
<b>decisions</b> 95:16 118:8 146:21 206:3	<b>demographics</b> 127:10	<b>Designated</b> 2:16	<b>deviate</b> 152:4	<b>directly</b> 48:12 137:18 241:2
<b>declaration</b> 81:9,10	<b>demolished</b> 86:4	<b>desire</b> 206:11	<b>DFO</b> 257:17	<b>Director</b> 2:10,13,17 2:18 34:19 249:22 292:22
<b>declining</b> 186:4	<b>demonstrated</b> 29:11	<b>desired</b> 219:18	<b>dialog</b> 102:11	<b>directs</b> 109:21
<b>decommission</b> 113:3	<b>densities</b> 21:8	<b>desk</b> 30:3	<b>differ</b> 171:18	<b>disappear</b> 16:11
<b>decommissioned</b> 113:2	<b>density</b> 19:9 23:8	<b>destination</b> 198:20	<b>difference</b> 78:17 138:2	<b>disaster</b> 38:14,16 65:12 67:12 73:14 73:19 81:7,10
<b>decrease</b> 149:1	<b>DENTLER</b> 2:13	<b>destinations</b> 216:2	<b>differences</b> 136:15	<b>disasters</b> 38:22 64:18 67:1 68:14 74:9
<b>decreasing</b> 19:9	229:6,14,19	<b>destroyed</b> 86:5 88:4	<b>different</b> 5:17 11:2 12:7 24:3 25:8,14 25:22 26:2 28:13 31:7 33:12 70:9 89:6,21,21 132:16 138:3,13 154:12 160:2 161:20 163:19 176:12 207:19 209:5 226:13,14 242:19 247:7 248:4 251:7 266:4 277:9 280:3	<b>discontinued</b> 112:1 113:2
<b>dedications</b> 19:16	<b>departed</b> 282:18	<b>detail</b> 107:4 135:20 136:4 153:3 180:14	<b>difficult</b> 96:19 97:13 99:3 104:7 246:15	<b>discovered</b> 246:8
<b>deeper</b> 246:2	<b>departing</b> 195:18 196:9,10	<b>detailed</b> 17:14 142:15	<b>difficulties</b> 28:10	<b>discretionary</b> 160:20
<b>Deepwater</b> 218:18	<b>Department</b> 1:1 2:5 3:5 8:18,20 14:2 33:6 34:4 64:11 105:15 107:6 111:9 141:22,22 143:9 144:11,22 145:17 146:22 147:2,10 147:15,19 148:13 148:16 150:6,7 151:12,13 159:20 170:21 232:19 266:9,19	<b>details</b> 146:1 154:2	<b>DIONNE</b> 1:21 120:18 121:10 127:14,20 128:6 128:14 145:7,9,16 168:18 169:13	<b>discuss</b> 273:15 <b>discussed</b> 219:10 296:6
<b>default</b> 153:6	<b>Department's</b> 108:13 147:13	<b>determination</b> 91:13 92:3 148:12 157:14		<b>discussion</b> 155:19 183:5 195:3 206:10 212:17 221:11 254:16 257:14 261:1 276:11 279:16 286:15
<b>defends</b> 145:5	<b>dependent</b> 65:16	<b>determinations</b> 147:21 154:3		<b>discussions</b> 3:20 28:15 146:14 203:9 204:3 226:14 264:19
<b>Defense</b> 2:4 3:14 33:6 34:4 64:3,11 64:12,15 66:22 68:7 71:21 75:12 79:12 91:5 92:6 92:11 95:19 105:15 107:6 266:9,19	<b>depending</b> 25:3 57:7 60:6 94:20 123:22 124:4,8 132:17 205:14 291:2	<b>determine</b> 142:10 204:9 220:7 237:6 250:18		<b>disease</b> 66:17
<b>deficiencies</b> 293:14	<b>deployment</b> 202:15	<b>determines</b> 160:20		<b>dislike</b> 153:12
<b>define</b> 241:16 258:19	<b>deputy</b> 96:8,14 239:10 264:5	<b>determining</b> 156:12		<b>dismiss</b> 264:10
<b>defined</b> 233:17 238:18 279:14		<b>devastation</b> 68:2		<b>disorder</b> 66:12
<b>definitely</b> 122:20 123:3 215:12 283:22 288:9,18		<b>develop</b> 14:21 20:6 20:6,7 46:21 70:14 74:15 76:20 85:2 103:8 142:5 142:12,14 143:20 148:5 186:5 224:18 231:10		
<b>degree</b> 25:16		<b>developed</b> 13:5		
<b>delay</b> 192:7				
<b>delayed</b> 78:12				
<b>delegations</b> 240:5				
<b>delete</b> 149:1				
<b>deliberate</b> 122:2				

<b>disorientation</b> 91:19	235:18 236:5,6 240:6 244:13	<b>DSC</b> 100:17,20	283:19	<b>effects</b> 14:20 104:4 113:13
<b>disposes</b> 151:21	256:7 261:17	<b>ducks</b> 125:10	<b>eat</b> 195:20	<b>efficiencies</b> 27:5,10 27:14 254:4 256:7 258:16
<b>distances</b> 25:11 52:19 199:3	266:11,13 267:4 296:8	<b>due</b> 103:22 227:14 232:15	<b>echo</b> 28:9 260:11 270:3	<b>efficiency</b> 135:16 136:2 257:1
<b>distant</b> 41:19	<b>DOLAN</b> 2:14	<b>dune</b> 14:12 15:7 18:1,8,10	<b>ecology</b> 18:10	<b>efficient</b> 126:16 135:2,12 186:6 242:6 256:11,12 256:18 298:16
<b>distinguish</b> 163:18	<b>dollars</b> 186:7 242:8	<b>dunes</b> 14:21	<b>economic</b> 41:16 43:3 82:15 111:10 121:2,6,18 185:22 187:15 222:15 223:21	<b>efficiently</b> 94:10 181:22
<b>distribute</b> 23:1 231:12	<b>Don</b> 103:4 179:4	<b>duplicate</b> 107:10	<b>economics</b> 50:17 168:20	<b>effort</b> 15:22 23:22 31:12 35:22 36:12 46:10 63:1 261:16
<b>distributing</b> 293:19	<b>doors</b> 77:12	<b>duplicating</b> 80:13 80:14	<b>economy</b> 50:12 121:3	<b>efforts</b> 36:5 49:17 51:5 56:9 57:9 68:21,22 80:15 116:20 185:9 186:6 252:12 275:20 277:11
<b>distribution</b> 24:1	<b>DOT</b> 95:19 97:22	<b>duration</b> 93:9	<b>ecosystem</b> 18:9 290:11	<b>eight</b> 75:20 90:14 113:19 152:20 207:19
<b>distributions</b> 23:8 138:11	<b>dots</b> 121:13	<b>duties</b> 261:10	<b>ecosystems</b> 22:16 23:13	<b>eight-meter</b> 28:7
<b>district</b> 11:4 19:6 50:21 170:1 184:4 184:8 271:7	<b>double-check</b> 99:20	<b>DVD</b> 101:2	<b>ecosystem-based</b> 31:13	<b>either</b> 8:3 53:14 174:4 194:16 209:21 225:20 231:9 233:11 296:16 298:8
<b>districts</b> 168:7,8,9 173:20 184:20	<b>double-sided</b> 75:22	<b>dying</b> 235:5	<b>Ed</b> 39:13,15,20,22 40:4 140:15 143:17 153:21 154:8 198:13 204:7 257:9 271:13,21 299:10	<b>elected</b> 175:11
<b>diverged</b> 229:11	<b>doubling</b> 182:5	<b>dynamic</b> 226:13	<b>edict</b> 262:4	<b>element</b> 104:22
<b>diverse</b> 277:7 280:6	<b>doubters</b> 20:20	<b>dynamics</b> 30:13	<b>edition</b> 26:8	<b>elements</b> 75:7 76:4 76:14 240:11
<b>division</b> 2:3 3:11 8:18 9:13,15,16 9:21 64:12 139:22 162:1	<b>downtown</b> 83:17	<b>D.C</b> 31:16 170:8 213:3	<b>Edmund</b> 1:16,18	<b>elevation</b> 72:19 129:10
<b>divisions</b> 9:10	<b>dozens</b> 290:6	<b>E</b>	<b>educate</b> 19:22 98:12	<b>elevations</b> 254:2,10
<b>DLNR</b> 2:12 9:11 14:17 83:13	<b>Dr</b> 21:19 37:6 43:22 85:8 107:5 111:2 130:3,12 133:11,16 135:15 135:19 137:16,22 146:15 173:16 230:20 232:18,18 239:9 240:22 280:16	<b>E</b> 1:23 2:16	<b>educating</b> 98:14	<b>eligible</b> 274:17
<b>DoC</b> 147:3,12 181:18	<b>draft</b> 278:8 287:17 293:3,4	<b>earlier</b> 14:15 42:17 74:5 90:10,11 91:15,21 138:1 143:18 155:19 168:19 180:4,15 183:5 210:4,5 291:3	<b>education</b> 15:2,7 19:21 39:4 42:3 73:12 100:2 118:22 233:4	<b>eliminate</b> 69:15 148:1
<b>document</b> 242:5 267:16 278:8 291:20	<b>drafted</b> 283:7 287:16	<b>early</b> 7:17 20:8 61:10,11 69:20 70:3 71:11 76:10 91:14 149:14 155:8 163:16 205:15 206:13,21 225:8 290:2	<b>educational</b> 39:5 252:5	<b>email</b> 189:16 194:14 231:12 269:11 275:14 278:1
<b>documented</b> 56:1	<b>drama</b> 87:5	<b>earmarks</b> 158:6,7,8 158:11,14,18,20	<b>Edward</b> 2:12	<b>embark</b> 31:1
<b>documents</b> 144:2,6 263:19,21 264:9	<b>draw</b> 144:1 170:14 258:10 288:18	<b>Earth</b> 24:13	<b>EDWING</b> 2:13 130:7 159:8 228:1 228:4,8 249:21	<b>emergencies</b> 54:9
<b>DoD</b> 215:2 227:13 270:13	<b>drawing</b> 77:16	<b>earthquake</b> 80:5 90:6 114:20,20	<b>Ed's</b> 40:8	
<b>doing</b> 12:18 13:22 16:3 17:22 28:15 40:16 81:20 85:1 89:9 94:7 97:16 98:8 111:5 125:16 125:17 130:17 153:2 175:13 180:2,5 183:15 184:7 187:3 198:18 204:5	<b>drawn</b> 18:20	<b>easements</b> 19:17	<b>effective</b> 7:1 31:22 125:17 226:5 261:12	
	<b>drill</b> 60:12	<b>easier</b> 264:10	<b>effectively</b> 13:5	
	<b>drive</b> 73:16 82:16 84:18,19 86:15 128:18	<b>easily</b> 99:22 102:2 204:15 205:21 220:12 229:22 230:1 260:20		
	<b>driver</b> 218:17			
	<b>drivers</b> 213:20			
	<b>drones</b> 248:12			
	<b>drop</b> 129:9			
	<b>dropped</b> 129:13 235:4			
	<b>drove</b> 15:14			

64:18 94:20 <b>emergency</b> 53:11 56:14 65:17 67:2 75:2 79:5 86:10 91:8 122:15 <b>emphasis</b> 69:1 236:18 <b>emphasize</b> 171:15 295:9 <b>employee</b> 173:9 <b>employees</b> 137:6 173:10,12 <b>enact</b> 93:16 <b>encourage</b> 47:12 101:10 134:8 138:14 174:22 255:3,13,22 256:21 266:8 279:5 <b>encouraged</b> 260:7 <b>encouraging</b> 110:22 <b>encroach</b> 19:3 <b>encroaching</b> 18:3 <b>endeavor</b> 48:22 <b>ended</b> 218:4 <b>endorsement</b> 32:2 <b>end-long</b> 250:18 <b>energy</b> 10:20,20 110:12 112:16 213:10 <b>engage</b> 102:11 266:9 <b>engaged</b> 33:9 47:7 67:1 111:3 262:7 262:17 <b>engagement</b> 45:20 81:6 88:1 103:1 202:8 261:19 <b>engaging</b> 252:14 <b>engineer</b> 131:12 300:5 <b>engineering</b> 85:14 <b>engineers</b> 2:21 72:2 252:16 270:8,11 270:11 <b>enhance</b> 134:15	284:14 <b>enhanced</b> 100:20 297:4 <b>enhancing</b> 36:17 <b>enjoy</b> 139:2 203:18 <b>enjoyed</b> 244:22 <b>Enron</b> 109:1 <b>ensure</b> 65:4 68:9,11 73:18 74:13 75:12 <b>ensures</b> 74:19 <b>ensuring</b> 65:10 <b>entangled</b> 86:3 <b>entered</b> 127:22 <b>enthraling</b> 66:19 <b>entire</b> 26:18 30:4 59:9 76:12 90:4 92:22 150:17 296:1 <b>entities</b> 24:19 32:20 63:1 110:9 256:17 <b>entity</b> 235:12 <b>environment</b> 65:20 66:8 260:12 <b>environmental</b> 217:6 239:11 <b>EPIRB</b> 123:20 <b>equipment</b> 40:20 235:4 246:1 247:11,13,14 <b>equipped</b> 28:8 97:3 <b>equivalent</b> 89:4 112:7 <b>ER</b> 28:9 <b>era</b> 186:4 <b>erode</b> 121:17 <b>erosion</b> 12:11 13:6 30:14 223:1,3 <b>especially</b> 44:7 50:6 53:9 56:13 57:14,21 61:6 62:21 71:10 93:17 99:12 112:20 114:19 115:5 124:15 132:15 186:4 210:11 238:3 245:2 <b>essential</b> 27:9	33:18 65:12 154:11 <b>essentially</b> 18:7 92:19 142:4 154:6 154:21 164:3 165:7 <b>establish</b> 164:4 257:17 <b>established</b> 31:6 40:10 68:15 161:19 <b>establishment</b> 175:21 177:17 215:1 <b>estimate</b> 87:18 96:3 96:5 132:20 <b>estimated</b> 92:4 121:7 <b>estimates</b> 133:3 <b>etcetera</b> 225:18 256:20,20 <b>ethically</b> 170:5 <b>ethics</b> 170:20 175:15,16 <b>evacuate</b> 82:8 104:9 <b>evacuation</b> 82:10 85:6,11 <b>evacuations</b> 92:8 92:20 <b>evaluations</b> 274:10 <b>evening</b> 205:16 <b>event</b> 67:21 68:2 73:7,9 82:11 83:10 86:21 94:1 102:4 113:22 114:18 129:7 130:19 175:3 179:15 218:18 <b>events</b> 105:2 119:16 186:15 217:3,6 <b>eventually</b> 86:8 152:17 192:8 <b>EVERSOLE</b> 2:14 <b>everybody</b> 21:9 25:5 51:12 98:22	118:2,3 123:14 150:15 193:1 194:14 200:22 215:3 220:4 255:22 261:14 266:10,11,12,13 271:3,10 296:16 297:9 300:11 <b>everybody's</b> 137:9 139:12 <b>everyone's</b> 297:1 <b>evolve</b> 145:11 <b>exact</b> 271:1 <b>exactly</b> 89:8,22 92:3 94:3 130:9 130:22 213:19 289:20 295:17,18 295:20 <b>example</b> 14:13 40:4 41:3 46:10 70:16 119:8 169:19 185:1 201:3 214:3 234:9 265:9 268:5 270:21 275:18 279:16 284:10,11 <b>examples</b> 39:11 186:14 253:14 <b>excellent</b> 21:16 131:18 261:3 <b>exception</b> 230:3 267:10 <b>exceptionally</b> 233:17 <b>exchange</b> 24:16,18 <b>excited</b> 179:21 <b>excused</b> 241:9 <b>execute</b> 115:21 156:14 <b>Executive</b> 8:21 34:19 37:15 <b>exercise</b> 93:5 202:5 231:20 242:11 <b>existing</b> 32:22 183:18 184:2 <b>exists</b> 184:21 <b>expand</b> 134:9 161:10,16	<b>expanse</b> 250:7 <b>expansion</b> 213:22 222:5 <b>expansive</b> 9:10 <b>expect</b> 141:3 142:19 237:18 238:7 245:18 <b>expectations</b> 251:19 <b>expected</b> 77:7 <b>expecting</b> 4:11 <b>expenditure</b> 242:10 <b>expense</b> 4:16 <b>expensive</b> 28:3 40:19 72:20 129:20 <b>experience</b> 203:17 <b>experiences</b> 41:21 <b>experimental</b> 212:10 <b>expert</b> 206:15,18 230:13 <b>expertise</b> 38:5 171:3 226:2 248:1 268:5 <b>explain</b> 258:6 <b>explained</b> 286:18 <b>explaining</b> 253:6 <b>explore</b> 186:3 <b>exploring</b> 106:19 <b>Export</b> 181:15 182:22 <b>exported</b> 185:18 <b>exports</b> 182:2,6 185:15 <b>express</b> 22:4 <b>extends</b> 171:12 <b>extension</b> 281:16 281:18 <b>extensive</b> 199:4 <b>extent</b> 66:21,22 175:22 226:1 263:8 264:3,7 <b>externally</b> 141:13 <b>extract</b> 136:14 <b>extraordinary</b> 220:16
---	--	--	--	--

<b>extreme</b> 54:5 102:3	207:9 272:22	120:12 142:11,16	<b>final</b> 4:4 87:21	150:19 151:18
<b>extremely</b> 97:19	273:2,14 282:7	150:17 160:18	148:12,12,14,17	154:7,12,14,15
227:6 242:14	300:11	164:5 171:12	149:14,16 153:7	155:12 156:16,17
288:12	<b>falls</b> 161:21 176:17	178:5 181:1 182:4	155:2 162:13,18	160:2,6 177:19
<b>eye</b> 104:8	177:14 197:11	182:11 186:4	162:22 163:5	<b>fish</b> 10:19 110:14
<b>eyes</b> 255:1	<b>familiar</b> 67:7 70:6	193:19 197:1	274:11 293:5	<b>fisheries</b> 2:20 9:16
<b>eye-opening</b> 250:5	140:14,18 143:1	224:5 234:22	<b>finalizes</b> 146:20	133:12 143:2
<b>F</b>	177:8	239:7,20 243:16	<b>finally</b> 32:5 34:2	<b>Fishery</b> 21:21
<b>FAA</b> 293:19	<b>family</b> 35:4 38:1	252:15 275:16	104:9 124:11	<b>fishing</b> 30:16 71:2
<b>FACA</b> 226:21	52:11 84:3,13	<b>feed</b> 142:2	149:7 155:12	110:16 114:10
227:12 229:5	95:10	<b>feedback</b> 147:5,15	157:14 160:3	115:13 211:10
230:3,18,19	<b>fans</b> 161:4	159:19	239:17	239:3,4 284:14,16
<b>FACA's</b> 224:17	<b>fantastic</b> 128:1	<b>feeding</b> 187:9	<b>Financial</b> 146:13	293:16
279:14	245:1	<b>feeds</b> 143:8	<b>find</b> 6:16 25:22	<b>fit</b> 115:6 141:1
<b>face</b> 18:21 244:3	<b>far</b> 5:10 53:6	<b>feel</b> 7:12 47:6	52:11 58:4,6	223:3 264:22
282:15	111:15 122:11,12	143:11 148:6	66:18 86:3 122:22	<b>fits</b> 76:21
<b>facilitate</b> 49:14	146:1 255:6	203:19,21 206:7	181:20 190:13	<b>five</b> 28:14 51:2
50:8 124:17	271:15 273:19	209:15 216:14	194:13 222:19	53:14,17 55:19
<b>facilitating</b> 62:2,2	<b>farm</b> 108:15 109:3	241:6,6 244:11	245:14 247:5,7,8	65:21 69:2 138:18
259:9	109:4,7,7,10,12	261:15 262:14	248:4 249:3	182:13 200:12
<b>facilities</b> 10:21,22	109:15 111:17,18	268:1 286:3	254:20 255:19	207:15 274:14
75:13 81:14 88:17	112:1,3,7,14,19	<b>feeling</b> 45:12	<b>finding</b> 222:19	275:7
93:19 117:13	113:1 212:1	206:11 209:20	246:17	<b>fix</b> 116:18
270:10	<b>farms</b> 10:19,21	262:17 293:6	<b>fine</b> 5:4 135:19	<b>flag</b> 37:6
<b>facility</b> 119:2 271:1	108:2,3,17,18,20	<b>feels</b> 131:14	180:1 238:6	<b>Flaherty</b> 132:5
271:2	110:14 111:21	<b>fell</b> 176:22	<b>finish</b> 8:9 205:14	<b>flash</b> 67:10 70:14
<b>facing</b> 26:22 141:7	113:7 210:22	<b>felt</b> 204:2	<b>finished</b> 154:17	70:18,22 71:8
<b>fact</b> 71:20 81:3	211:15 212:4,10	<b>FEMA</b> 35:19 38:14	<b>fire</b> 144:14	<b>flashy</b> 70:7
85:15 134:12	239:1	72:17 75:3,4 78:2	<b>first</b> 4:9 7:8,18	<b>fleet</b> 54:19 239:7
171:15 173:1,20	<b>fashion</b> 153:9	79:19,20 80:6	13:19 14:1 27:12	284:16 293:12,14
183:6 262:15	<b>fast</b> 132:18	81:2,3,4 119:9	33:15 35:1,3,22	<b>Fletcher</b> 17:5
271:8 281:1	<b>fatalities</b> 293:16	<b>FEMA's</b> 88:1	41:9 43:15 49:14	<b>float</b> 54:2
284:11 285:15	<b>Fattah</b> 167:14	<b>fertilizing</b> 18:4	52:5,9 63:19 76:6	<b>floated</b> 223:14
291:1,6	<b>feasible</b> 76:22 77:1	<b>field</b> 81:4 104:12	79:9 90:7,16,20	<b>flood</b> 67:10 70:18
<b>factor</b> 60:11	<b>featured</b> 84:19	114:15 287:7	91:4 94:13 99:9	70:20,21 71:1,8
<b>factors</b> 132:10	<b>February</b> 132:8	<b>fields</b> 133:22 134:3	124:10 144:11	78:3 84:7 94:9
<b>fades</b> 104:5	145:20,22 146:3,8	134:10 136:4,5	149:18 151:9	95:9 254:1
<b>Fai</b> 85:8	149:18 150:13,14	<b>figure</b> 21:4 86:15	191:19 195:18	<b>flooding</b> 67:10
<b>fair</b> 55:20 212:20	150:20 151:3	87:22 88:8 117:3	219:10 228:17	<b>floods</b> 77:21
240:4	156:11 160:13	123:14 128:3	229:7 241:3	<b>floor</b> 23:4 33:9
<b>fairly</b> 204:15	<b>Fed</b> 77:17	167:21 190:12	244:21 261:2,22	127:11 139:16
206:12 232:7	<b>federal</b> 2:16 26:21	<b>figures</b> 88:13	276:2,5 288:10	162:17,17
<b>fait</b> 152:4	35:17 36:3 56:15	<b>figuring</b> 116:17	291:15 296:14	<b>Florida</b> 129:4,7
<b>faith-based</b> 68:20	68:16 74:1 75:15	222:10,19 291:10	<b>first-class</b> 34:15	208:10 284:18
<b>fall</b> 152:7,8 163:8	79:14,20 88:20	<b>fill</b> 30:20 31:3	<b>first-hand</b> 7:2	<b>flow</b> 66:14 134:15
165:5 197:5,14,16	103:5 106:2,8	33:17	<b>fiscal</b> 51:1 54:15	<b>focal</b> 103:5
	109:19,19 120:8	<b>filtered</b> 86:19	143:16,18 150:18	<b>focus</b> 87:22 116:20



116:22 214:5 241:18 253:2 256:22 264:18 265:10 266:18 279:15 289:22 <b>focused</b> 38:19 <b>focuses</b> 38:7,10 56:21 98:9 <b>focusing</b> 254:5 <b>fold</b> 249:4 <b>folks</b> 5:13 6:5 31:15 37:17 38:2,3 72:12 91:17 93:12 98:13 99:16 100:9 102:12 133:8 134:20 137:15 138:3 139:19 140:1,2,9 143:3 143:14 153:11 158:3 165:7,14 166:15 170:19 174:9 177:8 185:2 185:10 186:21 187:1,11,13 188:12,21 209:22 210:6 213:6 251:10 260:1 262:6 271:17 275:11 284:6 285:2 299:21 <b>follow</b> 107:21 212:16 237:14 245:13 279:14 <b>following</b> 42:7,8 82:19 149:21 163:16 283:6 <b>follows</b> 133:16 <b>Follow-up</b> 126:3 <b>footage</b> 84:1 <b>force</b> 174:6 266:7,7 <b>forces</b> 128:18 130:21 131:2 257:18 <b>forecast</b> 44:17 45:13,15 51:7 <b>forecasting</b> 45:9 50:3 59:22 248:19	<b>foreign</b> 181:19,19 <b>foremost</b> 49:14 50:11 52:6 <b>foresee</b> 62:9 <b>foreseeable</b> 206:14 <b>Forestry</b> 9:13 <b>forget</b> 105:3 288:5 <b>forgive</b> 51:15 <b>forgot</b> 287:21 <b>form</b> 61:18 106:16 153:9 287:17 290:18 293:5 <b>formalize</b> 36:11 <b>formalized</b> 234:21 <b>formed</b> 22:14 <b>former</b> 209:13 270:1 281:21 <b>formulation</b> 140:12 <b>forth</b> 151:15 226:7 276:9 297:10 <b>forthcoming</b> 61:9 <b>fortunate</b> 66:9 83:1 83:4 170:22 <b>forward</b> 5:22 55:5 138:21 196:15 199:11 244:7 257:4 259:6 299:4 300:10 <b>forwards</b> 288:17 <b>found</b> 191:7 246:7 259:3 <b>foundation</b> 54:22 99:13 129:6 181:9 181:11 <b>four</b> 28:12 33:12 53:5 67:2 74:2 105:9,14 106:4,14 136:4 182:13 200:5,12 205:7,12 231:11 233:11 265:2 274:8 278:14 <b>fourth</b> 53:19 54:8 <b>four-point</b> 51:22 <b>frame</b> 147:3 154:12 163:14 197:6,8 251:1 265:15	268:9 <b>frames</b> 197:12 <b>framework</b> 39:3 <b>Francisco</b> 114:8 186:13 <b>free</b> 47:7 99:18 143:11 <b>frequency</b> 67:11,20 <b>frequently</b> 84:19 152:12 227:13 <b>freshman</b> 169:19 <b>Friday</b> 1:11 198:16 <b>friend</b> 52:11 <b>friendly</b> 106:6 <b>friends</b> 168:5 <b>FRN</b> 277:6 <b>front</b> 4:20 17:20 34:13 105:2 119:11 129:12 150:8 295:10 <b>frustrated</b> 192:22 <b>fulfill</b> 29:15 30:20 173:18 <b>full</b> 106:19 162:15 165:4 198:20 231:1 241:10 249:22 290:5 <b>fully</b> 4:11 21:10 31:11 186:21 222:1 291:5 <b>fully-loaded</b> 115:12 <b>fun</b> 55:12 71:5 <b>function</b> 108:13 <b>functionally</b> 238:20 239:16 <b>functioning</b> 235:12 <b>functions</b> 9:11 12:2 <b>fund</b> 21:12 77:20 161:12,12 164:7 183:4,7 218:7 245:17 <b>funded</b> 22:18 46:14 80:16 130:18 154:4 158:11 <b>funding</b> 15:2 19:18 46:15,21 74:20 75:16 77:1 103:6	129:11 151:1 153:13 218:6 223:15 225:16,16 234:2,22 235:4,14 244:12 245:14 246:17 252:3 287:12 288:13 <b>funds</b> 113:4 179:7 222:20 <b>further</b> 12:8 69:5,8 112:12 138:22 139:1 195:6 217:17 <b>future</b> 9:3 16:5 44:18 131:19 183:7 206:14 233:3 237:7 253:4 253:18 264:15 <b>FYI</b> 156:5 <b>FY2011</b> 156:1 <b>FY2012</b> 156:7 <hr/> <b>G</b> <hr/> <b>G</b> 74:22 75:10 <b>gain</b> 254:4 <b>Galveston</b> 201:6 <b>gap</b> 30:21 33:18 89:19 120:20 222:9 248:2 252:20 290:10 <b>Gary</b> 1:23 90:2,3 122:6 123:5 128:15 209:15 216:17 223:11 235:17 248:13 257:7 <b>gas</b> 52:8,13 <b>gather</b> 252:20 <b>gathering</b> 83:20 <b>gauge</b> 78:20 79:3 124:2 250:21 <b>gauges</b> 69:22 77:20 77:21 78:8 250:15 250:19 251:12 290:3 <b>GE</b> 108:22 109:1 <b>general</b> 23:16	26:17 27:15 37:5 67:11 140:10 191:8 218:11,14 231:16 263:6,7 283:9 286:1 289:21 292:17 <b>generally</b> 22:21 25:1 59:10 61:15 123:21 207:7 225:3 <b>generated</b> 67:16 73:8 90:6 <b>generation</b> 144:4 <b>generations</b> 9:3 16:5 104:3 <b>generators</b> 119:10 <b>gentleman</b> 39:10 89:12,16 212:12 <b>geo</b> 181:10 <b>geodesy</b> 236:12,21 244:3 253:5 254:7 289:8 <b>geodetic</b> 2:10 39:14 39:18 177:9,16 178:14 244:2 253:7 263:12 268:8 280:2 282:4 290:7 <b>geographic</b> 201:6 <b>geographical</b> 77:17 280:8 <b>geography</b> 70:9 250:8 <b>geological</b> 135:22 <b>Geology</b> 13:2 14:18 <b>Geo-Intelligence</b> 201:3 <b>geo-spatial</b> 38:8 181:9 <b>GERD</b> 2:14 <b>getting</b> 7:19 20:15 20:15 28:10 63:9 111:15 118:2 140:11 144:11 148:9 159:19 160:4,7 168:22 183:12 185:12
---	---	---	--	---

187:11,11 188:1 192:6 204:16 215:1 262:16 280:1 285:3 291:18,19 <b>gin</b> 288:1 <b>give</b> 4:21 6:12 7:21 7:22 8:11,12 13:17 24:1 34:11 34:14 52:12 95:15 108:8 112:22 125:9 136:2 137:19 147:7 148:4 154:22 155:13,16 157:16 161:14,15 164:16 166:16 178:18 185:3 193:22 194:14 209:14 221:5,9 232:15 276:15 279:8 299:5 <b>given</b> 55:21 75:3,10 134:12 145:21 146:10 159:22 160:22 161:5 183:16 250:6 274:20 <b>gives</b> 17:14 147:4 149:19 177:13 273:3,9 <b>give-way</b> 63:9 <b>giving</b> 94:7 95:5 266:18 279:6 <b>glad</b> 269:14 <b>Glang</b> 2:14 190:4 257:9 299:20 <b>glaring</b> 268:2 <b>global</b> 41:15 <b>go</b> 7:5,11,14 8:2 16:6 23:19 28:22 32:18,20 39:11 48:10 51:10 52:12 52:12 53:12,22 54:10 57:2 59:12 59:18 60:8 69:4 71:2,3 86:15 91:3	91:6,22 93:14 103:19 106:22 112:3 113:4 114:7 116:2,6 120:1 130:19 132:15 133:9 140:15 148:9 149:4 150:1 155:16 156:14 166:17 167:17,19 168:10 169:15 170:7 171:21 172:3 173:22 176:6 180:13,20 184:6 190:7 194:21 195:2 196:15 200:8 201:22 202:12,18 209:19,21 210:1 211:13 214:12 216:8,17,17 217:19 218:12 219:13 220:12 221:12 224:7 231:9 245:16 247:12 257:19 269:12 272:14 274:7 276:2 278:7 278:9,10 279:10 280:2 288:16 289:7 295:2 <b>goal</b> 22:14 31:10 182:5 <b>goals</b> 146:19 147:13 182:22 <b>goes</b> 61:15 119:11 123:20 129:15 140:5 144:19 145:3,4 147:9,18 147:19 150:16,21 151:17 153:10 156:11 162:16 185:14 235:18 279:20 280:15,21 <b>going</b> 4:15 5:10,15 7:13,22 13:16,17 16:7,14 18:12,12 27:3,6 28:22 32:9	32:10 37:10 38:4 39:11 40:5 41:5 49:3 50:17 51:16 62:16,18 70:9 71:8 82:3,17,18 84:16 89:13,14 93:22 94:3 98:6 99:5 102:17 116:16 117:5,6,14 117:15,18,19,21 118:1 120:9,18 121:17 122:3,9 124:11 126:18,21 127:1,5,7,16 128:4 131:22 132:12,17,18 134:2,14 136:9 139:14 144:7,21 149:10 151:5 152:14 153:6,9,18 154:22 155:13,17 156:1,13 157:9 158:13,18 159:18 160:17,19,21 164:19 169:11 174:3,6 175:7 179:22 180:20 181:1 184:14 186:13 188:8,9,17 191:19 193:19 194:6,7 195:16,17 199:18 200:21 206:2,7 210:12 212:15 213:21 214:6,20,20 218:2 219:9 224:5 231:20 232:21 233:7 237:7 238:21 239:12 246:15 251:22 252:3 253:21 254:3,4 258:20 259:18 260:8 262:5 266:4 269:1 271:19 276:17 278:7 282:12 291:10 294:3	296:7 298:2 299:14 <b>good</b> 4:3 5:9 10:1 37:16 48:19 52:16 57:9 64:5,8 71:4 97:6 98:16 107:20 108:11 119:8 121:14 126:19 153:17 180:2 181:5,12 187:8 191:1 194:9 195:20 203:10 205:18 211:20 214:3,13 220:22 222:16 227:11 238:6 240:6,9 244:15 249:9 260:21 262:14 267:5 270:2 272:9 272:18 279:16 287:4 <b>goods</b> 65:17 168:22 <b>Google</b> 298:9 <b>gosh</b> 285:6 <b>gotten</b> 109:5 131:11 147:14 172:4,5,6 213:1,5 284:5 285:7 <b>governance</b> 38:22 <b>governing</b> 177:6 <b>government</b> 8:22 40:7 65:11 88:20 103:6 150:17 160:18 171:12 173:9,10,12 256:19 273:19 286:11 <b>Governmental</b> 249:18 <b>Governor</b> 92:9,10 169:8 295:10 <b>GPS</b> 40:16 57:16 <b>grab</b> 133:22 220:5 <b>grabbing</b> 264:4 <b>graduate</b> 96:15 <b>Graham</b> 166:10 <b>Grail</b> 153:8	<b>grain</b> 138:7 185:15 <b>grand</b> 222:3 269:7 <b>Granquist</b> 2:2 3:10 48:5,8,11 51:20 90:13 93:15 114:15 120:4 122:19 123:12,16 132:7,22 <b>grant</b> 2:14 14:3,17 20:12 46:14 79:19 80:7,8 100:15 103:6 129:5 <b>grantee</b> 79:12,17 80:3 <b>grants</b> 80:2,2,9 <b>graph</b> 245:7 <b>grassroots</b> 233:6 233:14 <b>gravel</b> 135:8 <b>GRAV-D</b> 236:19 253:19 <b>gray</b> 120:9 <b>grease</b> 112:5 <b>great</b> 31:10 34:8 39:16 46:10 99:14 102:14 105:7 152:19 166:17 168:15 187:3 217:13 240:20 245:1 255:10,20 267:5 275:19,21 279:16 <b>greater</b> 27:5,10,14 <b>greatly</b> 95:15 107:2 <b>green</b> 17:17 <b>grew</b> 36:5 <b>grid</b> 61:16 123:8 124:8 <b>ground</b> 115:13 116:16 118:3 136:17 256:3 <b>grounded</b> 63:4 132:4 <b>grounding</b> 29:4 <b>groundings</b> 30:17 <b>grounds</b> 210:12 <b>ground-D</b> 269:3
---	--	---	---	---

<b>group</b> 13:2 14:18 22:13 25:12 26:22 28:6 35:4,6 37:21 38:10,13,17 42:18 47:6 89:2 107:22 167:9 208:5,9 226:1 230:3,11,14 231:1 240:17 252:11 258:14 265:5,22 268:7 277:14 280:12 296:8 <b>groups</b> 24:5 25:9 25:10 28:3 38:1 46:15 56:18 101:4 101:4 186:3,17 225:13 230:4,9,16 231:2,15 241:5 242:19 248:4 257:14,18,22 258:1,18 265:2 266:21 267:4,19 282:6 <b>grow</b> 84:9 <b>growth</b> 109:15 <b>Guam</b> 24:8 32:6 <b>Guard</b> 2:3,19 3:12 40:12 42:15 47:15 48:4 51:21 58:15 59:11 62:9 92:13 92:14 93:16 98:13 99:10,14 100:16 101:3 116:20 119:21 126:9 182:14 <b>Guard's</b> 97:17 <b>guess</b> 5:8 34:5 66:10 104:6 113:15 140:4 154:13 187:18 192:9 195:10 203:7,22 216:9 222:3,12,19,21 225:8,10 226:9 232:2 233:8 234:8 234:13 236:16 242:5 243:6	281:12 284:5 293:3 296:18 <b>guesses</b> 136:1 <b>guests</b> 4:19 64:13 <b>guidance</b> 131:18 144:5 157:17 164:6 170:13 225:3 242:5 277:10 <b>guide</b> 144:6 234:16 <b>Guidebook</b> 20:5 <b>guiding</b> 16:15 <b>Gulf</b> 31:20 208:2 208:10 210:5 216:9 218:15 219:9 <b>gum</b> 234:20 <b>Gustav</b> 67:22 <b>guy</b> 57:10 140:3 203:2 249:2 <b>guys</b> 189:16 218:12 227:5 231:9 260:9 260:18 271:13 <hr/> <b>H</b> <hr/> <b>habitat</b> 2:6 3:7 21:22 22:15 33:10 44:2 134:6 137:2 137:3 138:2,13 185:8 223:1 <b>Haleakala</b> 10:14 <b>half</b> 10:12 76:1 112:3 204:14 224:13 259:2,8 269:18 289:14 299:8 <b>half-dozen</b> 266:21 <b>half-hour</b> 78:16 <b>HAMILTON</b> 2:15 <b>hand</b> 54:12 197:22 241:8 275:3 <b>handed</b> 4:10 <b>handful</b> 161:6 <b>handing</b> 7:18 <b>handled</b> 110:9 <b>hands</b> 259:15 286:11	<b>handy</b> 60:16 <b>hand-in-hand</b> 95:19 <b>hang</b> 273:5 <b>happen</b> 28:5 30:11 30:17 110:19 117:21 119:3 129:22 154:19 163:3 201:5 225:19 230:12 249:4 <b>happened</b> 97:5 116:14 123:2 132:8,9 <b>happening</b> 11:3 60:14 99:2 109:15 <b>happens</b> 18:5 30:15 90:19 91:2 163:15 253:15 <b>happy</b> 166:17,20 217:18,19 260:20 <b>harbor</b> 32:6 42:1 44:21 62:22 63:10 88:15 95:1 100:4 115:1 117:8 119:9 183:4 245:17 <b>harbors</b> 27:19 28:13 43:12 44:15 45:10,16 50:8 52:4 56:22 57:22 59:5,19 63:13 83:12 88:2 94:11 94:12,20 95:2,20 96:4 97:10 98:1 101:16 102:1,5 108:12 112:8 114:1 115:7 118:21 131:13 237:1 <b>hard</b> 58:13,15 101:7 158:9 175:14 220:12 256:5 265:20 271:21 <b>harder</b> 29:10,10 204:17 205:6 <b>harms</b> 92:16	<b>harm's</b> 72:7,15 73:5,7 78:6 <b>hashed</b> 223:13 <b>hatches</b> 94:6 95:9 <b>hate</b> 296:22 <b>Hawaii</b> 1:15 2:4,5 2:14 3:5,13 8:22 10:6,15 11:19 12:7,9 13:2,4,7,20 14:1,4 17:3,7 20:3 20:4,13,14 24:14 28:1 38:15 46:7,9 47:11,20 48:21 50:9,11,15 51:13 52:1,2,5 53:18 55:16 56:9 62:4 64:2,16 65:6,14 65:17 66:7,9 67:16 68:3 69:17 70:6 72:19,20 76:5 82:21 83:4 84:7 85:10,13 98:18 99:20 100:2 101:20 102:13 103:21 108:19 111:4 124:16 128:8 130:17 175:6 205:19 247:16 294:19 295:1 297:12 <b>Hawaiian</b> 9:8 24:7 24:15 35:2 42:16 43:19 71:3 121:3 <b>Hawaii's</b> 67:5 <b>hazard</b> 20:5 35:17 35:20 38:19 46:19 61:4 64:10 67:5 67:17 74:4 76:7 79:10 80:8 97:7 102:3 103:2 223:7 <b>hazards</b> 2:1 3:3 7:7 13:6,15 20:1,3,8 36:18 39:8 46:16 67:6 68:7 74:3 76:15,17 80:5 138:18 <b>head</b> 106:4 132:17	150:6,7 256:14 264:1 295:8 <b>headquarter</b> 187:13 <b>headquarters</b> 141:19 143:6 187:1 278:11 299:22 <b>Healy</b> 54:20 <b>hear</b> 64:6 98:7 107:9 149:2 187:1 187:4,7,7 193:16 208:7 224:22 241:14 291:13 <b>heard</b> 42:17 71:18 134:19 144:3 181:7 191:5 193:1 221:7 239:22 243:15 251:14 267:17 268:21 286:2,12 287:5 <b>hearing</b> 139:11 150:5 179:14 194:6,16 243:19 249:15 294:3 <b>hearings</b> 145:6 149:22 153:22 156:21 162:4 194:12 <b>heavy</b> 40:2 54:6 70:16 280:1 <b>heck</b> 240:16 269:4 <b>height</b> 83:7 <b>heightened</b> 91:6 <b>held</b> 234:19 <b>Helemano</b> 70:1 <b>helicopter</b> 129:9,12 <b>helos</b> 51:3 <b>help</b> 32:3 33:15 43:5 46:16 52:12 52:18 53:22 63:2 72:5,7,10 74:15 85:2 86:11 106:20 122:20 123:11 124:17 136:17 140:17 181:22 187:16 209:14
---	--	--	---	--

226:4 230:12 233:2 239:19 260:16 262:21 265:14 277:4 <b>helped</b> 63:7 296:17 <b>helpful</b> 121:11 236:10 287:8 <b>helping</b> 225:20 266:1 <b>helps</b> 24:2 82:16 <b>herd</b> 50:13 <b>hesitant</b> 175:10 <b>he'll</b> 131:17 <b>Hi</b> 139:17 <b>HICKMAN</b> 1:21 214:17 217:11 219:7 227:21 228:2,6,9,15 235:9 244:17 271:12 272:7,12 272:15,19 281:9 281:17 296:3,5 <b>high</b> 23:2 32:7 50:13 55:18 116:16 118:3 136:15 254:5 <b>higher</b> 151:6,6 226:7 <b>highest</b> 224:3 <b>highlight</b> 141:6 161:7 <b>highlighted</b> 69:4 <b>highlighting</b> 252:6 <b>highly</b> 65:16 138:10 <b>high-priority</b> 27:18 <b>high-resolution</b> 43:16,20 <b>Hill</b> 143:21 145:4 149:20 153:11,14 153:20 158:3 178:18 179:10 185:13 <b>hinted</b> 154:8 <b>historic</b> 60:1,2 128:12 <b>historical</b> 60:9,15	<b>hit</b> 67:9 76:5 <b>hits</b> 90:22 106:4 <b>hitting</b> 63:18 94:14 <b>Hi'ialakai</b> 30:1 <b>hoc</b> 257:22 <b>hold</b> 32:13 101:7 215:14 <b>holding</b> 8:7 34:5 35:9 <b>Holy</b> 153:8 <b>home</b> 24:9 84:1,3,4 84:12,14,14 116:2 169:22 205:16 235:18 278:16 <b>Homeland</b> 79:19 80:9 <b>honest</b> 116:13 243:10 <b>honestly</b> 95:1 111:11 168:12 <b>Honolulu</b> 1:15 2:3 3:11 96:15 117:9 119:8 214:20 <b>hoops</b> 227:16 <b>hope</b> 5:14 31:15 35:12 106:13 188:16 241:12 261:14 280:22 282:10 <b>hopeful</b> 252:18 <b>hopefully</b> 60:13 62:10 256:12 258:12 <b>hoping</b> 58:6 225:13 260:16 <b>horizon</b> 97:22 129:3 <b>horrific</b> 83:1 <b>horrifically</b> 76:2 <b>host</b> 98:8,9 197:1 <b>hosting</b> 209:17 <b>Hosts</b> 57:1 <b>hotel</b> 198:9 229:9 <b>hour</b> 129:1 190:12 <b>hours</b> 40:2 42:11 53:3 82:6 86:21 90:22 91:2,9	113:20 195:19 <b>house</b> 2:15 55:14 57:11,13 94:16 142:3,8 161:21,22 162:17,20 164:12 167:7,11,20,21 168:3 169:16 170:4,7 176:11 194:21 232:3 262:4 <b>housed</b> 85:13 <b>Houston</b> 201:5 208:6 217:15 218:5 <b>HSIA</b> 105:22 106:9 178:16 <b>HSRP</b> 1:6,17 3:20 3:22 41:8 103:15 105:18 133:8 134:17 171:4,10 179:16 241:4 242:5,5 249:22 297:20 <b>huge</b> 117:11,15,16 138:1 166:11 202:19 211:6 242:10 270:9,10 282:16 <b>hugeness</b> 289:18 <b>hui</b> 37:21 38:12,18 38:21 39:4 <b>huis</b> 37:21,22 38:1 <b>hulls</b> 120:9 <b>humidity</b> 248:19 <b>hundred</b> 279:11 <b>hunk</b> 211:7 <b>hurdles</b> 187:22 <b>hurricane</b> 67:8,21 67:22 72:4 73:7 82:12 104:4 129:7 129:13,14 <b>hurricanes</b> 43:10 92:22 104:1,16 <b>hydrographic</b> 1:6 1:14 4:5 6:8,14 22:2 26:17 27:16 105:19 106:10	121:21 133:20 135:4 136:10 170:6,11 171:16 172:7 174:2 177:10 178:15,21 179:6,7 185:4 189:17 252:22 254:8 <b>Hydro-Grams</b> 213:11 <hr/> <b>I</b> <hr/> <b>Ian</b> 130:16 131:9 <b>Ice</b> 54:19,22 <b>idea</b> 12:10,20 18:18 23:11 104:15,16 132:16 214:13 221:11 222:3 264:22 289:9 <b>ideal</b> 150:14 <b>ideally</b> 154:16 163:5 <b>ideas</b> 196:14 267:22 <b>identification</b> 76:15 100:21 <b>identified</b> 73:22 74:3 78:8 102:16 131:12 <b>identify</b> 40:11 91:10 122:14 130:11 184:1 186:8 <b>identifying</b> 290:19 <b>Ike</b> 67:22 <b>image</b> 29:18 41:14 42:6,9 44:20 45:1 <b>imagery</b> 29:20 <b>images</b> 82:22 <b>imagine</b> 55:15 127:9 <b>imaging</b> 84:20 <b>immediately</b> 91:6 <b>impact</b> 29:5 43:3 71:15,15 225:20 <b>impacted</b> 57:6 78:1 <b>impacts</b> 36:19 43:8	43:10,11 44:14 46:17 66:14 82:15 185:22 187:16 217:6 239:8 254:6 <b>implement</b> 31:12 31:17 181:1 <b>implementation</b> 20:18 180:17 <b>implemented</b> 13:9 181:16 <b>implementing</b> 13:10 <b>import</b> 65:16 <b>importance</b> 41:17 253:6 254:1,10 294:14 <b>important</b> 15:9 23:3 35:11 44:12 44:16 51:8 52:22 71:13,21 77:15 81:19 82:1 111:20 125:20 135:20 183:18 184:4 187:15 188:10,15 189:20 239:20 242:9,14 263:17 <b>imported</b> 73:1,2 <b>impossible</b> 230:1 <b>impressions</b> 196:13 <b>improve</b> 22:5 36:22 39:17 40:8,13 43:5 44:17 107:20 130:2 184:12 253:18 254:3 <b>improved</b> 254:10 <b>Improvement</b> 105:19 177:11 178:15,21 179:6 189:18 <b>improvements</b> 41:11 44:6 119:2 233:3 <b>improving</b> 130:8 <b>inappropriate</b> 171:20 <b>incident</b> 39:2 63:6 123:2 132:21
---	---	---	--	---

<b>inclination</b> 175:11	118:19 282:15	<b>initiatives</b> 68:18	172:6 179:1	71:14 85:7 223:1
<b>include</b> 19:13 37:4	<b>influence</b> 72:7,8	<b>inland</b> 70:5 185:15	189:13 192:2	<b>invalidated</b> 232:12
73:22 99:22	<b>influx</b> 199:5	<b>inlet</b> 87:3	209:1 211:19	<b>inventory</b> 120:8
156:14 158:14,18	<b>informal</b> 206:10	<b>Inn</b> 86:14 87:10	213:1 239:18	<b>invest</b> 119:1
158:20 162:11	262:3,3 274:21	<b>innovation</b> 71:20	240:19 259:17	<b>investigate</b> 60:8
230:10 268:12,14	<b>information</b> 7:1	233:4	261:18 289:4	<b>investigation</b> 60:11
269:20 285:20	51:9 59:22 61:12	<b>innuendos</b> 59:12	<b>interested</b> 35:20	<b>investigations</b>
<b>included</b> 45:3,22	72:5,10 73:5	<b>innundation</b>	89:13 110:1	60:19
146:16 148:9	77:11,13 78:20	121:15	122:13 172:4,5	<b>investments</b> 43:5
165:9 277:6	79:2 86:9 94:2	<b>Inouye</b> 175:5	174:16,18 194:19	46:2 144:8
<b>includes</b> 10:13	95:15,21 99:21	<b>input</b> 120:13 140:6	209:16 238:13,16	<b>invitation</b> 7:21
26:14 65:6,17	100:10,21 101:12	147:16 198:7	238:22 290:21	22:4 47:4,19
117:7 145:2	120:14 121:11,14	245:2 265:18,19	<b>interesting</b> 176:16	64:14
<b>including</b> 88:16	121:20 123:10	279:6	186:15 224:22	<b>invite</b> 249:13
92:12 118:19	124:21 125:19	<b>inside</b> 138:3	238:11 248:3	<b>involved</b> 199:3
133:2 162:6,7	127:15 134:4,11	<b>insights</b> 113:15	<b>interests</b> 166:8	246:11 266:1
<b>incoming</b> 73:8	134:13 135:6,17	<b>install</b> 69:22	292:18	280:14
<b>incorporated</b> 74:16	136:6,13,18	<b>installation</b> 78:9	<b>interface</b> 215:1	<b>involves</b> 187:21
85:5	137:10 138:7	<b>installed</b> 77:22	<b>interior</b> 70:13	<b>involving</b> 197:1
<b>incorporates</b> 125:1	181:21 187:9	<b>instance</b> 9:5,13	168:21 169:2	<b>in-house</b> 92:9
<b>increase</b> 15:1 19:8	191:5 192:14,16	12:18 18:17 23:5	<b>internal</b> 193:9	<b>in-kind</b> 22:21
21:8 32:10 36:21	201:21 219:8,14	66:17 70:2 72:14	203:8	<b>in-reach</b> 186:19
83:7 148:1,22	223:10,18 231:19	73:9 77:1 258:9	<b>Internally</b> 159:12	<b>IOCM</b> 276:12
182:1	253:16 254:11	<b>institutions</b> 36:9,16	<b>international</b> 37:8	<b>iocm.noaa.gov</b>
<b>increased</b> 19:20	255:5,11 256:2	37:18	181:17	190:7
26:21 45:19 47:9	258:8 260:10	<b>instrument</b> 129:21	<b>internationally</b>	<b>IOOS</b> 289:6
<b>increasing</b> 161:8	298:3,8	<b>instrumentation</b>	37:9	<b>Iron</b> 83:21
<b>incredible</b> 42:18	<b>informational</b>	128:19 129:2	<b>interoperability</b>	<b>irrelevant</b> 207:13
46:2	234:6	<b>instruments</b> 129:8	289:6,7	<b>irrigating</b> 18:4
<b>incredibly</b> 40:19	<b>informative</b> 241:11	<b>insurance</b> 70:20	<b>interrupt</b> 143:11	<b>island</b> 15:13 24:5,9
44:1,9,12,16	<b>informed</b> 95:16	<b>insures</b> 101:21	150:11 214:19	25:8 28:3 29:17
<b>incumbent</b> 75:11	183:13	<b>insurmountable</b>	270:19	29:18 30:2,4,5
<b>indicates</b> 97:5	<b>infrastructure</b> 11:1	261:6	<b>inter-agency</b> 19:19	32:11 40:16 66:19
<b>indication</b> 90:20	101:19 107:14	<b>integrated</b> 31:12	193:4 246:21	73:10 78:1 87:14
<b>individual</b> 115:18	176:15 181:21	46:4 189:6 193:17	248:7,20	89:3 92:22 96:16
115:21 149:22	233:4	236:4 239:6,13	<b>inter-generational</b>	108:19 109:9
163:5,10 168:17	<b>infrequent</b> 119:4	<b>integration</b> 143:5	21:3	111:19 112:16
170:15 172:13	<b>inhabit</b> 93:1	190:6,10	<b>inter-office</b> 159:9	116:15 127:3
173:5 259:7	<b>inherently</b> 76:11	<b>intend</b> 290:18	<b>introduce</b> 6:3	132:13 133:12
291:19	<b>initial</b> 79:3 159:17	<b>intense</b> 11:12 204:3	179:5	185:6
<b>individually</b> 150:4	160:7 180:22	280:22	<b>introduced</b> 19:1	<b>islands</b> 2:6,19 3:7
263:18 277:16	<b>initially</b> 144:20	<b>intent</b> 136:16	85:4 179:9 208:9	21:21,22 22:16
298:15	<b>initiate</b> 33:5	<b>interact</b> 210:9	<b>introducing</b> 61:4	24:6,7,15 25:6,12
<b>individuals</b> 47:4	<b>initiation</b> 34:2	<b>interacted</b> 174:13	160:4	25:14 27:17 28:13
280:18	<b>initiative</b> 78:22	<b>interacts</b> 151:6	<b>introductory</b> 5:6	33:11 35:18 36:18
<b>Industrial</b> 56:20	181:15 183:1	<b>interest</b> 18:10	<b>inundation</b> 28:18	37:7 39:19 43:9
<b>industry</b> 97:19	277:16 282:8	22:22 140:10	43:6 44:3,3 45:2	43:20 44:9 52:19

53:5,14,17,17,18 56:22 57:4 59:4,6 111:6 127:2 214:7 246:12 <b>isolated</b> 65:15 67:13 72:21 <b>issue</b> 12:3 21:13 108:15 117:18 120:6 153:18 179:3 211:6 222:14 238:5 258:5 288:22 293:18 <b>issued</b> 93:10 <b>issues</b> 42:14,21 46:11,22 48:14 89:22 98:17 107:8 120:19,20 141:7 158:2 178:3,8,11 180:12 188:19 193:4 213:8 218:21 220:13 222:21 232:15 238:12 250:12 260:14,15 265:11 276:14 287:3 <b>item</b> 76:22 106:14 142:15,15 161:3,9 169:12 <b>items</b> 74:2 166:7 <b>iterations</b> 144:13	115:17 168:4 172:9 174:12 191:4,4 205:4 212:9 241:1,3 269:16 276:20 277:3,22 290:17 <b>JEFFERY</b> 1:20 <b>Jeffress</b> 1:23 90:3,3 90:11,15 122:7 128:16,22 130:5,9 211:22 212:6 223:12 234:1 <b>jeopardy</b> 93:1 <b>JESSICA</b> 2:21 <b>Joanna</b> 48:20 <b>job</b> 77:7 85:18 97:16 98:10,14 102:14 123:11 225:21 252:11 260:19 <b>jobs</b> 81:1 86:13 142:7 <b>John</b> 2:6,16,17 3:7 6:2 21:20 35:14 40:18 105:8 106:14 112:10 130:12 131:5,21 136:22 137:20 251:15 254:13 258:15 269:15 279:7 290:8 <b>Johnson</b> 2:4 3:13 64:3,5,8,9 87:8,20 90:9 91:3 122:11 <b>John's</b> 133:17 <b>joint</b> 40:21 49:16 51:5 56:8 57:9 63:1 81:3 136:10 <b>Joyce</b> 1:23 103:18 189:3 205:21 225:6 250:14 273:3 276:1 289:15 298:15 <b>JR</b> 2:16 <b>Juan</b> 214:20 <b>judge</b> 176:5 <b>judicious</b> 11:10	<b>Judy</b> 250:14 <b>Juliana</b> 2:10 39:9 252:8 <b>July</b> 147:14 148:10 <b>jump</b> 227:16 <b>June</b> 147:3 278:7 <b>jurisdiction</b> 163:8 164:10,12 165:1 176:10,12,17,20 176:22 177:1,15 <b>jurisdictions</b> 103:9 <b>Justice</b> 165:2 167:8 <b>just-in-time</b> 50:12	<b>key</b> 97:21 141:11 141:14 148:8 181:7 184:3 186:18 252:10 261:12 <b>kick</b> 227:5,5 <b>kick-off</b> 271:9 <b>kids</b> 71:2,16 <b>kills</b> 290:10 <b>kilometers</b> 25:11 <b>kind</b> 9:22 12:14,22 13:19 14:6 16:19 16:20 17:2,20 19:8 20:6 25:17 30:6 75:5 85:16 85:17 86:16 99:4 104:5 105:16 110:8,17,18 112:12 116:19 125:17 126:15 134:6 135:8 136:22 147:12 154:13 163:21 187:8 202:5,22 203:9 209:6 215:2 220:5 221:5,12 224:11,19 226:7 234:19 239:12 248:6,13,21 249:3 249:7,18 251:17 255:16 257:1 262:9 263:22 268:7 285:5,7 289:17 290:10 298:15 299:13 <b>kinds</b> 78:8 82:13,16 85:4 126:22 258:2 <b>knew</b> 61:21 <b>know</b> 4:13 12:18 13:12 21:1 23:12 25:11 26:11,13,13 26:16,18,19 28:2 28:18 29:12 30:13 31:19 32:2,14 51:14 54:2 60:12 61:14 62:22 63:16 66:1 70:7 72:11	77:13 78:12,13 80:18,20 82:2,3,5 82:11 83:9 85:16 86:12,17 87:20 89:20 94:3 95:2 96:18 97:18 98:4 99:1 100:19 101:3 101:6 102:4 103:10 104:6,9,11 104:17,22 105:4 105:10,12,20 107:7,9,10,19 108:3 109:14 110:6,17 111:17 112:5,18 113:19 113:22 114:3 115:18,20 116:1 117:15 124:4,14 126:1 127:3 128:9 131:10 134:18,21 135:1,7,8,14 136:14,21 137:1,4 138:3,5,7,14 139:1,18 140:3,11 142:4 143:15 145:2,21 146:18 147:22 148:6 152:3,5,7,7 155:7 156:8,12 157:14 157:17 158:11 159:22 160:11 161:6 162:1,5 163:5 166:1,18 168:20 171:5,8,15 172:21 174:9,11 174:16,19 175:5,9 175:12,16,19,22 179:21 180:3,8 181:8 183:12,15 184:3,14,20 185:13 187:4,6,16 187:19,21 188:17 189:21 190:1 192:4,11 193:21 194:5 197:20,21 198:4,10 199:12 200:20 202:12,15
---	---	--	---	--

203:14,20 204:1 204:20 205:7,11 205:13,16 207:13 207:15,18 209:12 209:15,18,22 210:4,8 212:19 214:2,11 217:3,7 222:8,14,21 223:1 224:12 225:11,12 225:13,15,21,22 226:2,4,6,10,11 226:13,16,17,17 228:15 230:12 232:5,10,11,17,19 233:5,7,15 236:20 237:5 239:9 240:2 241:8,20,21 243:1 243:18 244:5,6 248:6 249:3,11 251:1,15,22 255:2 255:11 256:8 259:6,7,12 260:8 260:13 261:9,21 263:2,3,10,22 265:2,8,14,16,20 266:4 267:2,9,13 267:22 268:3,4,6 268:8,20 269:7 271:1,12,21 272:13,21 273:18 274:21 275:10,13 275:22 276:9,17 277:14 278:1 279:15 280:1,6,20 280:20 281:4 284:8,10,15 287:22 288:5,15 289:5,8,10,14 290:2,6,9,10 291:9 292:4,15 295:18,18,22 296:5,15 297:11 298:14 <b>knowing</b> 84:6 <b>knowledge</b> 38:20 279:19 <b>knowledgeable</b>	113:16 <b>known</b> 32:22 <b>knows</b> 123:14 <b>Kona</b> 1:14 86:14 87:10 <b>KSAs</b> 279:18 <b>kudos</b> 42:15 <b>Kwok</b> 85:8 <b>Kyle</b> 2:21 299:6,7 299:15 <hr/> <b>L</b> <b>L</b> 173:16 <b>labor</b> 72:22 <b>lack</b> 118:15 288:13 289:19 <b>lacking</b> 208:13 275:18 <b>laid</b> 163:22 <b>Lakes</b> 168:15 275:19,21 279:16 <b>Lamb</b> 296:6,13 297:5 <b>Lanai</b> 112:15,19 <b>land</b> 2:5 3:5 8:18 8:20 9:20,22 10:12,13 11:7 14:2 21:8 72:7 112:21,21 113:8 189:10 268:15 <b>lands</b> 2:5 3:5 8:17 10:6,13,16 <b>landward</b> 17:9 <b>language</b> 35:2 161:10,14 <b>languages</b> 39:7 <b>large</b> 46:7 116:9 132:14 199:5 202:18 250:12 275:14 <b>larger</b> 53:10 115:5 115:9 242:16 <b>largest</b> 197:12 214:22 <b>Larry</b> 280:14 <b>Larson</b> 241:7 <b>lastly</b> 39:3 44:5,11	45:18 46:18 47:3 66:3 73:11 101:14 <b>latch</b> 263:9 <b>late</b> 14:15 149:13 163:15 197:6 206:16,20 <b>lately</b> 163:9 <b>latitude</b> 216:8 <b>launch</b> 27:22 28:7 28:8 233:9 <b>launched</b> 126:1 <b>laundry</b> 232:7 <b>LAURA</b> 2:15 <b>lava</b> 66:14 <b>law</b> 109:19 162:22 227:12 <b>laws</b> 191:12 <b>Lawson</b> 1:19 119:18 192:11 206:15 232:1 237:12 265:14 273:3 281:3 286:6 291:22 293:1 <b>Lawson's</b> 212:16 <b>lawyer</b> 171:2 <b>lay</b> 124:7 <b>LA/Long</b> 208:16,19 215:12,18 216:5 <b>LCDR</b> 2:2 3:10 <b>lead</b> 27:14 38:13 68:12 207:3 221:10 <b>leadership</b> 27:3 29:8 33:4,14 151:11,12 213:1 219:13 226:6 284:7 <b>leading</b> 271:14 <b>leaking</b> 112:5 <b>learn</b> 6:12 154:1 296:1 <b>learned</b> 97:15 154:9 224:12 241:12 243:19 294:15,21 <b>learning</b> 172:8 174:17	<b>lease</b> 112:22 <b>leases</b> 212:3 <b>leave</b> 4:18 34:21 53:20 58:3 96:22 97:3 100:4 179:17 179:18 205:1 <b>led</b> 39:22 63:6 <b>left</b> 43:17 58:3 96:3 113:7 167:12 194:4 232:12 268:2 298:19 <b>legislation</b> 106:9 164:3 172:17 177:5 <b>legislative</b> 3:17 141:6 170:14 178:7,11,11,13 188:19 262:7 <b>legislature</b> 19:1 <b>Lemmo</b> 2:4 3:5 7:15,15,16 8:10 8:15 88:14 108:10 112:2,9 120:22 121:4 <b>lengths</b> 166:18 <b>letter</b> 22:4 283:5 284:1,12 285:21 285:22 287:16 288:9 289:12 291:2,3,16 292:3 292:9,9,10,12,14 294:12,18 295:8 296:15,17,18 297:5 <b>letters</b> 258:5 <b>letting</b> 8:6 275:13 <b>let's</b> 4:8 139:5 182:21 183:1 195:20 196:2 197:17 206:1,3 211:14 220:19 231:21 267:7 282:15 288:1,20 296:11 <b>level</b> 13:9,10 14:20 16:10 17:2,6,8,10 17:12,12,13,17	25:3 43:8 44:3,11 76:10,13 83:7 89:7 91:18 102:12 102:12 119:12 133:5 151:4,6,6,7 179:12 187:13 226:8 233:6,13 234:15 236:11 237:2 251:7 254:6 <b>leveling</b> 40:7 <b>levels</b> 68:19 <b>leverage</b> 79:22 80:1 80:20 <b>leveraging</b> 103:14 <b>LIDAR</b> 31:3 252:13 <b>Lieutenant</b> 48:4 64:2 92:10 122:18 123:6 132:3 169:8 295:10 299:6 <b>life</b> 7:16 14:6 60:7 64:22 65:9 74:13 77:8 78:17,18 83:2 95:10 122:16 187:17 267:11 <b>light</b> 86:19 249:17 276:6 293:6 <b>liked</b> 266:5 285:1,3 <b>limit</b> 160:20 <b>limited</b> 46:14 204:8 227:7 246:14 <b>line</b> 17:16,17,18,18 17:20 18:19,19,20 19:2,4 54:8 141:15 142:15,15 142:21 144:20 146:4,5,11,11 148:5 150:2,3 152:7,8 159:1,17 160:17 161:3,9,17 166:7 169:11 170:14 188:3 193:10 209:6 222:7 240:1,3 243:12 245:16,21 255:4 287:10 299:20
--	---	--	---	--

<b>lines</b> 44:15 65:9 175:14 242:12 252:13 291:7,17 <b>lingering</b> 139:18 <b>lingo</b> 253:20 <b>link</b> 190:8 194:15 258:1 <b>links</b> 292:5 <b>Lisa</b> 166:4 <b>list</b> 79:8 106:11 168:5,11 207:11 232:7 250:10 252:2 276:21 277:13,15,18 279:10 280:10 298:12 <b>listed</b> 23:18 25:1 165:3 167:11 214:14 <b>listen</b> 295:3 <b>listened</b> 290:4 <b>listening</b> 58:2 89:1 108:11 <b>listing</b> 297:9 <b>lists</b> 297:19 <b>literally</b> 49:2 <b>little</b> 5:16 13:18 14:11 15:10,12 22:9 25:7 32:1 35:13 49:5,12,17 50:19 52:2 59:11 63:21 87:3 101:11 101:12 111:15 113:10 124:20 125:10,13 126:14 139:13,22 140:6 140:11,16 176:7 192:4,21 196:8,12 199:1,4 208:13 210:21 219:4 225:1 227:4 229:11 236:18 239:15 240:7,17 241:6 243:10,10 244:1 250:5 254:15 258:17 260:15 262:16	264:16 267:16 273:15 283:20 286:13 287:6 291:19 293:2,6,9 295:19 297:4 <b>livable</b> 84:14 <b>live</b> 92:17 195:1 205:19 <b>lived</b> 70:22 <b>lives</b> 70:21 84:22 87:13 <b>live-aboards</b> 97:11 <b>living</b> 20:1 84:10 <b>lo</b> 4:12 <b>load</b> 181:22 <b>loaded</b> 246:2 <b>lobby</b> 173:13 <b>lobbying</b> 171:11 262:7 <b>Lobbyists</b> 282:12 <b>local</b> 6:17 14:13 36:6,15 40:6 46:10,11 73:8,9 74:14,16 76:19,19 102:11 103:9 256:20 <b>locale</b> 250:6 <b>locally</b> 111:1 <b>locate</b> 123:21 <b>located</b> 17:9 125:3 143:8 <b>location</b> 26:3 59:3 125:3,10 216:10 216:11 <b>locations</b> 26:1 206:5 209:4 <b>lofty</b> 31:10 <b>log</b> 135:12 <b>logging</b> 135:2 <b>logical</b> 295:22 <b>logistical</b> 218:21 <b>logistically</b> 28:4 <b>logo</b> 35:10 37:11 <b>long</b> 18:10 19:11 20:11 21:3 30:14 90:2 126:21 127:9 141:4 157:15	166:4 187:20 203:11 207:14 209:2 217:22 232:7 250:10 263:20 <b>longer</b> 52:8 69:8 116:10 199:1 204:17 271:20 <b>long-term</b> 33:5 34:3 <b>look</b> 10:7 12:16 17:2,15 18:13 19:9 46:11 66:10 67:17 79:21 85:3 112:6 117:22 122:9 130:19 135:2 136:11 138:21 167:3,18 167:20 179:2 180:13 183:19 184:14 185:13 188:9 191:10 197:17 199:10 201:22 216:22 218:16 233:2,12 234:15 241:21 246:16 251:22 257:19 259:3,4,6 279:19 300:10 <b>looked</b> 105:16 118:14 257:15 <b>looking</b> 5:22 6:19 12:20 16:14 19:5 38:21 39:4 41:4 43:7,9,11 58:17 72:16 83:11 85:6 87:9 88:3 102:17 105:18 106:17 117:7 126:14 141:11 169:11 181:18 182:18 190:5 225:2 243:12 245:22 260:12 299:4 <b>looks</b> 18:13 142:14 160:13 232:6 233:20 234:12	<b>look-out</b> 15:15 <b>lose</b> 121:8 205:9 281:6 <b>losing</b> 135:17 <b>loss</b> 60:7,7 64:21 65:2 77:8 78:3 223:1 <b>losses</b> 81:15 82:13 <b>lost</b> 83:2 84:4,22 88:6 <b>lot</b> 18:2 20:20,22 24:3,18 30:10,14 31:18 33:19 49:3 49:8 51:9 54:10 56:8,12 58:9,20 60:3 61:2 63:11 68:18 73:3 77:4 78:11,13 84:22 92:17 114:8,9 116:10 120:10 127:4,7,9 128:2 135:6 153:7 168:20 172:8 178:10,18 180:14 181:18 183:21 185:20 191:5 203:20 206:10 210:6 213:1,5,13 224:12 226:2 229:11 233:6 235:3 240:13 241:12 242:19 243:17,18 245:1 246:13 247:1 248:8 251:14 253:10 258:4,7 259:11,13,18 260:10 267:14 271:21 272:19 276:13 277:4 286:10,16 291:9 293:13 294:20 300:2 <b>lots</b> 222:15,16 223:8 <b>Louisiana</b> 210:7 216:21	<b>low</b> 243:11 <b>Lowell</b> 2:16 5:6,8 106:13 135:1,18 136:8 137:19 159:13 173:4 179:10,21 191:11 191:18 194:18 199:15 201:21 206:12 207:22 213:18 214:13 218:13 219:2,22 220:4,8,11 227:10 227:20 228:11 230:2 254:14 279:8 281:15 282:6,17 296:19 296:20 <b>lower</b> 114:5 151:7 216:8 <b>LT</b> 2:21 48:8,11 51:20 90:13 93:15 114:15 120:4 122:19 123:12,16 132:7,22 <b>Lubchenco</b> 146:15 230:20 232:18,19 280:16 <b>luck</b> 205:18 <b>lucky</b> 42:13 <b>lump</b> 163:13 <b>lunch</b> 195:11
<b>M</b>				
<b>Maalaea</b> 109:3 <b>macro</b> 233:13 234:15 236:11 <b>magic</b> 298:9 <b>magnitude</b> 217:3 <b>mahalo</b> 63:22 <b>main</b> 24:6,15 177:6 196:11 243:7 267:11 <b>Maine</b> 89:6 284:14 293:17 <b>mainland</b> 52:3 114:17 <b>maintain</b> 24:4,14				



29:9 33:15 49:21 73:15 106:1 138:15 <b>maintenance</b> 183:4 234:2 235:1,17,22 245:17 288:22 <b>major</b> 18:21 53:5 53:17 187:18 188:18 222:1 <b>majority</b> 57:16 167:10 <b>making</b> 33:4 95:16 95:21 118:8 121:18 144:16,22 169:3,6,9 242:20 250:2 285:1 288:15 292:6 <b>Man</b> 83:21 <b>manage</b> 23:12 80:12 114:12 121:20 138:11 <b>management</b> 2:1,2 2:7 3:3,9,11 7:7 9:12,21 10:4 12:1 14:13 15:6,7 23:11,15 31:14 33:19 34:20 35:7 35:21 36:13 37:1 38:9 39:2 41:7 67:3 79:5 86:10 138:19 139:20 142:2,7 144:16 147:11,20 148:17 148:20 149:5,15 151:14 156:8 189:10 193:17 238:15 253:1 254:1,3 264:6 281:22 <b>managing</b> 66:3 80:18 <b>mandate</b> 9:4 113:11 <b>mandated</b> 175:20 177:18 189:22 <b>mandates</b> 178:5 190:9	<b>manner</b> 135:13 <b>map</b> 22:14,15 23:8 23:14,17,20 25:8 37:4,5 137:2,3 <b>mapped</b> 26:4 <b>mapping</b> 2:6 3:8 21:22 22:8,10,13 33:9,10,22 44:2 138:4,13 189:6,18 190:6,10 222:6 254:9 <b>maps</b> 13:5,8 23:4,5 85:11 <b>Marcella</b> 2:2 3:10 48:5 <b>March</b> 42:7 47:11 83:11 86:22 140:9 146:10 159:22 160:11,15 170:20 229:8 <b>Marianas</b> 24:8 26:10 29:19 <b>marine</b> 9:7 23:16 24:10 31:9,13 34:1 57:18 70:5 88:9 96:15 108:5 108:6,16 109:17 110:11 133:18 134:5 181:4 182:3 182:7 193:8 213:9 238:17 286:12,15 293:7,22 294:16 <b>mariner</b> 281:21 <b>mariners</b> 99:11 282:3 <b>maritime</b> 46:12 47:8 49:9,13 52:16 110:15 118:19 213:14 215:9 <b>marketed</b> 286:18 <b>marketing</b> 287:7 <b>mark-up</b> 162:9 <b>marlin</b> 86:15 <b>Marra</b> 2:17 130:3 130:12,13 <b>married</b> 87:16	<b>Marriott</b> 1:15 <b>Maryland</b> 174:10 175:4 <b>mass</b> 86:6 <b>Massachusetts</b> 89:17 <b>massive</b> 32:9 <b>master</b> 281:21 <b>masters</b> 95:1 <b>matches</b> 146:19 147:13 <b>material</b> 4:17 <b>materials</b> 39:6 73:1 <b>matrix</b> 123:8 <b>Matson</b> 97:22 126:6,14 296:7,12 297:5 <b>Matt</b> 271:20 272:5 272:16 291:15 <b>matter</b> 116:17 125:22 139:7 152:10,11 166:22 180:10 195:22 216:12 242:13 266:15 300:14 <b>MATTHEW</b> 1:19 <b>Maui</b> 109:3,13 126:22 <b>Mauna</b> 10:14 <b>maximize</b> 186:6 <b>ma'am</b> 64:7 <b>McBride</b> 209:9 <b>McFARLAND</b> 2:19 96:6,7,12,13 96:13 116:9 124:19 126:10 127:18,21 128:11 128:21 <b>mean</b> 43:18 62:3,4 96:5 99:5 101:18 101:21 107:6,17 114:6 128:6 145:10 158:16 168:11 177:20 195:3 199:18 200:22 201:20 202:17 203:6,15	204:19 208:22 209:4 214:22 218:9 219:4 220:18 233:20 234:4,21 239:22 243:20 247:12,22 249:1 251:19 252:3 253:21 263:3,4 265:4 266:20 269:7 275:17 279:4 282:7,15 283:17 285:13 286:2 287:9 289:13,17 289:19 291:1 295:7 298:7 <b>meaning</b> 234:10 <b>meanings</b> 35:3 <b>means</b> 30:19 58:5 78:4 110:13 134:18 138:2 188:10 268:17 <b>measurable</b> 248:17 <b>measure</b> 75:8 128:20 129:9 <b>measured</b> 138:9 <b>measurement</b> 237:2 <b>measures</b> 75:3,7 93:17 <b>mechanics</b> 196:20 <b>mechanism</b> 279:6 <b>mechanisms</b> 15:3 19:18 46:22 <b>media</b> 84:21 238:4 <b>meet</b> 36:4 137:9 182:5 196:5 241:19 252:4 256:17 259:2 295:22 <b>meeting</b> 1:9 4:5 47:10 89:2 168:19 171:4 174:21 175:6 179:16,18 180:15 191:5,19 192:5 194:19,20 195:3 196:13,21	197:5,14,16 198:15 199:1,2,7 203:8 204:4,8,10 204:21,22 205:7,8 206:5,13 207:5,6 207:10 208:17,18 208:19 210:5,8 213:7 216:14 218:15 221:7 223:17 227:12,18 229:5,9,18 231:4 238:8 241:12 246:8 249:22 254:22 255:21 256:11,15 261:20 262:10,11,15 264:12,17 265:5 265:10,14 266:1 266:16,17 271:8 271:14 273:1,2,14 283:4,6,10 285:13 288:19 289:1 293:12,15 298:13 300:1,11 <b>meetings</b> 97:20 149:22 187:12 196:16 197:3 198:19 204:15 208:20 214:12 215:2 227:14 231:14,15 254:17 255:7,14 261:12 264:16 265:17 266:22 267:5 284:12 285:13 297:18,21 <b>meets</b> 256:13 <b>mega-watt</b> 109:4 <b>mega-watts</b> 109:6 <b>member</b> 47:22 52:11 90:3,11,15 96:2 99:8 103:17 103:20 104:21 105:7 107:12 113:12 115:17 119:19 120:6,18 121:10 122:4,7
--	---	---	--	--

126:3 127:14,20 128:6,14,16,22 130:5,9 145:7,9 145:16 157:2,4 158:22 159:6,10 165:21 167:15 168:4,10,18 169:13,14,18,22 170:3,11 171:10 171:16,21 172:8,9 173:1,21 174:1,2 174:12 189:4,11 190:11 191:4 193:1 201:1 202:2 202:17,21 203:3,5 203:12 205:4,18 205:22 206:17,20 206:22 208:4,21 210:3,15,18 211:2 211:4,10,12,18,22 212:6,9 214:6,17 214:21 215:5,7,11 215:20 216:3,16 216:21 217:1,2,5 217:11 219:7 220:6,9,18 221:20 223:12 224:8 225:7 227:2,8,19 227:21 228:2,6,9 228:15,21 230:14 232:2 234:1,4,18 235:9 236:9 237:9 237:13 241:3 243:6 244:17,21 245:12 247:18 261:13 262:11 268:11,17 269:5 269:16 270:3,9,20 271:4,12 272:7,12 272:15,19 273:7 276:3,20 277:3,22 278:20 279:3 280:13 281:4,9,10 281:17,19 282:9 282:14,20 286:7 287:2 288:7 289:2 289:16 290:1,12	290:17 292:1,3 293:10,21 294:11 295:5,11,13,15,21 296:3,5 297:8 298:4,17 <b>members</b> 1:17 5:12 6:10 7:4 149:22 160:22 165:4,14 173:11,12,16 174:14 175:2,19 180:1 183:12,21 184:2,2,19 188:13 189:13 199:6 203:18 208:8 209:13 224:6 225:5 226:11 232:4,5,6,13 261:3,4,5 262:17 264:14 265:12,13 271:22 277:1 278:22 287:18 288:2 294:10 <b>membership</b> 279:21 <b>member's</b> 184:16 <b>memorandum</b> 144:5 <b>memorize</b> 59:3,9 <b>mention</b> 71:19 77:3 79:9 81:18 112:11 136:8 174:7 198:14 283:2 <b>mentioned</b> 27:15 40:18 56:16 65:14 74:18 77:20 81:2 101:16 103:4 107:22 112:10,10 122:8 180:15 215:12 222:7,9 224:17 239:5 261:8 276:5,7 289:3,3 <b>message</b> 74:11 260:17 <b>messages</b> 186:1 <b>met</b> 1:14 39:15 57:1 166:19	207:12 248:14 284:2 <b>meter</b> 17:7,8,10,19 17:20 <b>method</b> 51:22 <b>methods</b> 19:15 <b>Mexico</b> 208:3,11 <b>Michael</b> 2:19 133:11 <b>Michael's</b> 138:5 <b>Michele</b> 1:21 120:17 127:12 221:16 <b>microphone</b> 96:10 96:12 100:12 133:10 241:2 <b>mid</b> 155:11 197:4 <b>middle</b> 84:2 100:5 116:11 185:15 <b>mid-Atlantic</b> 212:19 <b>mid-September</b> 148:18 <b>mighty</b> 272:3 <b>Mikulski</b> 174:10 175:3 <b>mile</b> 51:4 <b>miles</b> 9:7 10:17 50:4 52:21 54:3 <b>military</b> 32:8,18 55:19 <b>MILLER</b> 1:23 47:22 96:2 103:20 104:21 126:3 157:2,4 158:22 159:6,10 189:4,11 190:11 203:5,12 205:18,22 206:20 208:4,21 217:1,5 225:7 227:2,8,19 247:18 268:11,17 273:7 276:3 289:16 290:1 295:15 297:8 298:4,17 <b>million</b> 88:4,14 243:13,20	<b>mimic</b> 71:18 <b>mind</b> 22:14 27:10 209:9 221:19 223:14 225:5 251:13 <b>minds</b> 104:8 <b>mine</b> 49:5 <b>minus</b> 239:2 <b>minute</b> 56:17 119:3 139:4 141:17 164:11 167:16 196:19 197:17 206:2 299:11 <b>minutes</b> 78:10,13 78:15 113:21 116:10 117:19,20 118:6,7 125:22 176:5 191:21 221:2,3,18 <b>missed</b> 300:6 <b>mission</b> 36:20 58:14 62:14 64:15 64:19 65:4 66:2 69:14 77:15 222:1 222:4,11,17 234:14 236:13,14 290:14 <b>missionary</b> 240:7 <b>missions</b> 58:11 106:18 <b>Mississippi</b> 185:17 <b>misuses</b> 12:4 <b>mitigate</b> 74:8 <b>mitigating</b> 132:10 <b>mitigation</b> 20:5 35:17 46:19 64:10 67:4 69:13,15,20 73:13,14,16,17 74:8,12 76:17,20 79:10,20,20 80:7 80:8 81:12 103:2 <b>mixed</b> 284:5 285:8 <b>Mobile</b> 167:3 <b>mobilize</b> 27:21 <b>mode</b> 52:9 <b>model</b> 44:18 45:2 85:16 124:2,20	125:21 128:13,18 130:8 <b>modeling</b> 28:18 43:6 44:3,4,4 45:11 72:4 85:7 85:18 121:15 130:2 <b>models</b> 50:3 51:7 85:9 122:8 126:4 126:8 127:8,16 128:1 223:6 <b>modern</b> 202:19 <b>modify</b> 164:4 <b>Moku</b> 1:14 <b>Molokai</b> 112:15 <b>moment</b> 16:21 41:21 48:12 60:4 60:5 120:21 123:7 224:6 235:14 <b>moments</b> 35:11 100:4 <b>Monday</b> 149:18 198:20 <b>money</b> 40:22 111:9 119:9 120:10 159:1,9,11 164:16 166:16 183:8,10 193:10 235:19,20 248:22 294:6,20 <b>month</b> 160:10 232:22 <b>months</b> 133:19 143:15 151:3,16 152:20,22 156:22 274:8 278:14 299:8 <b>Monuments</b> 24:10 <b>moorings</b> 45:7 <b>morning</b> 4:3 42:7 48:19 64:5,9 82:6 90:17 93:9 94:4 99:3 <b>mortgages</b> 19:16 <b>motley</b> 39:19 <b>mountainous</b> 70:12 <b>mountaintops</b> 10:14
--	--	--	--	--

<b>mouth</b> 87:2,3 272:7	36:15 38:13,17	<b>nearby</b> 53:1	298:7	<b>nice</b> 86:19 174:4
<b>move</b> 5:19 8:3,13	39:1,2,14 41:17	<b>nearing</b> 109:8	<b>needed</b> 36:6 217:8	177:22 184:19
21:9 27:6 55:5	43:2 46:18 54:21	<b>near-shore</b> 30:11	<b>needs</b> 4:16 27:4,9	202:11 211:13
78:5 114:3 120:19	70:19 79:10 80:4	43:16,17 89:18	27:18 29:15	214:18 241:22
163:14 181:22	103:2 106:1	120:20 121:13,21	147:21 166:19	<b>niche</b> 49:12
257:4 284:19	118:13,16 129:6	222:9 223:5	178:1,3,11 184:5	<b>Nicky</b> 68:3
288:16	139:20 144:21	236:13 248:2	188:19 233:22	<b>night</b> 90:7 100:5
<b>moved</b> 34:12 124:6	146:6 151:10,10	<b>near-source</b> 41:19	234:21 240:13	<b>nighttime</b> 94:4
<b>movement</b> 30:14	177:15 178:10	<b>necessarily</b> 55:8	245:6 246:16	<b>nine</b> 31:7 180:18
<b>moves</b> 199:10	180:16 181:2,15	137:9 158:3	247:10,14 250:8	<b>NOAA</b> 1:4 2:15,17
<b>moving</b> 16:16	182:22 240:12	161:11 183:9	251:6,6 256:11	3:16 6:9,13 14:4
19:10 160:5	269:5	188:18 197:15	274:6 286:19	14:17 21:20 22:5
218:19 244:7	<b>nationally</b> 26:20	224:9 242:21	288:11	22:19 26:7 27:3
<b>mull</b> 218:12	<b>natural</b> 2:5 3:6	275:2	<b>NEHRP</b> 79:18 80:4	29:8 30:1 32:19
<b>multi</b> 25:19	8:19,20 9:2 14:2	<b>necessary</b> 42:20	<b>Neighborhood</b> 57:2	33:4,14 35:19
<b>multiple</b> 39:7,7	15:5 20:3 176:13	65:7 68:10 93:5	57:3	38:7 45:2 46:6,13
238:14 256:17	177:2,3	239:20 257:16	<b>network</b> 71:12	51:10 56:16 58:6
<b>multi-bathymetry</b>	<b>nature</b> 227:14	<b>need</b> 21:7 25:16	<b>networks</b> 46:13	60:17 61:10 62:10
29:21	280:4	26:17,20 27:16	84:21 106:7	63:1 79:8 85:2
<b>multi-beam</b> 28:9	<b>naautical</b> 50:4 51:4	28:21 31:4,17	<b>never</b> 70:22 104:3	122:3 130:13
30:7,9	52:21 54:3 178:6	32:3 37:16 40:11	104:4 152:10,11	134:20 140:13
<b>multi-beams</b> 30:1	251:3 269:2	41:11 42:3 43:14	189:5 200:21	141:8,15,18,21
<b>multi-hazard</b> 73:16	<b>nav</b> 210:10 222:1	44:5 45:17 47:2	214:15 227:12	142:17 143:7,13
73:17,21	225:20 226:4,6	50:13 62:9 65:21	246:10 268:21	144:19 145:2,4,19
<b>multi-mission</b>	239:21 254:19	68:1 69:9 72:8	299:8 300:1	146:9,11,13,15
49:15	290:14	74:2 75:4,6 82:2,3	<b>new</b> 5:20 6:3 14:22	148:5,17 150:7
<b>Murdoch</b> 112:18	<b>Naval</b> 24:19 32:15	82:5,12 85:18	18:16 24:10 61:3	151:11,12 159:19
<b>Murkowski's</b> 166:5	214:22,22	100:3,6 110:11	104:2 108:2	161:20 162:4,4
<b>mushrooms</b> 253:10	<b>navigation</b> 6:14	114:10 117:5	111:21 112:1	164:8,13 165:1
<b>mutual</b> 29:15	22:5 27:19 33:20	121:13 122:8	177:22 178:2,3	167:22 168:1
	33:20 40:1,14	124:8,16 126:7	183:10,19,21	176:10,21 177:5
	61:4,21 114:1	131:22 137:9	184:2 185:11	177:14 179:13
<b>naive</b> 174:12	141:7 151:9	166:21 178:12	186:3,5 190:8	180:20 182:14,19
<b>name</b> 4:15,21 7:22	161:12 165:9	185:16 188:20	199:6 209:1,3,11	182:19 183:2,7
21:20 34:18 66:12	176:17,20 177:7	190:20 201:20	216:18 217:10	184:7 186:20
109:20 132:6	184:5 185:6,21	204:9 206:11,12	218:18 221:4	187:1 193:9
133:11 136:1	186:21 187:3	218:9,10 225:17	229:2 232:5	196:22 198:6
166:5 167:7 189:5	211:5,8 213:4	229:17 232:14	242:10 244:6	201:22 202:13,14
189:7 238:9 271:1	239:2 263:11	234:5,5,6 240:10	253:19 255:1,1	213:1 219:13
<b>names</b> 4:13 201:10	271:3	240:10 241:16,18	256:15 261:4,5	224:15 231:8
<b>Napo'opo'o</b> 83:22	<b>navigators</b> 37:16	242:6 243:17	262:16 264:14	240:8,14 241:5
<b>narrow</b> 219:18	37:17	244:13 246:19	271:17 294:10	243:8 244:12
258:16 270:4	<b>Navy</b> 117:11 247:1	247:4 250:19	<b>newer</b> 101:11	245:4,18 249:17
<b>nation</b> 72:18	270:7 271:2	254:16 256:11,17	<b>Newport</b> 271:2	257:17 258:5
223:19 253:22	292:21	264:11 266:7	<b>newspaper</b> 237:17	259:18 260:1
<b>national</b> 1:3 2:17	<b>near</b> 20:2 30:8	284:13,18 287:9,9	<b>NGDC</b> 24:19	262:21 265:18
4:6 24:10 31:5,7	33:18 52:17	290:7 291:9 295:9	<b>NGS</b> 244:6 253:3	267:10 277:10

278:11,22 280:15 288:12 292:6 293:18 298:10 299:16,22 <b>NOAA's</b> 62:18 69:5,9 165:6 185:20 187:2 243:11 289:4,5 <b>NOAA/CO-OPS</b> 2:13 <b>NOAA/HSRP</b> 2:13 2:15,22 <b>NOAA/National</b> 2:10 <b>NOAA/NGS</b> 2:12 <b>NOAA/NOS</b> 2:14 <b>NOAA/NOS/PP...</b> 2:11 <b>NOAA/OCS</b> 2:17 2:21 <b>NOAA/Pacific</b> 2:19 <b>nominations</b> 274:9 274:10 <b>non</b> 53:10 <b>non-coastal</b> 254:9 <b>non-disaster</b> 73:20 <b>non-emergency</b> 52:9 74:20 <b>non-profits</b> 68:17 76:19 <b>non-regional</b> 264:19 <b>non-regulatory</b> 18:14 19:12 <b>non-restriction</b> 230:10 <b>non-traditional</b> 186:17 213:8 221:21 <b>non-voting</b> 280:13 <b>Norfolk</b> 211:14 212:16,19,22 213:19 214:2,22 217:10 266:17,17 <b>Norfolk/Hampton</b> 216:10 <b>normal</b> 50:7 96:1	135:4 261:10 274:4 <b>normally</b> 115:5 134:2 198:18 202:14 296:12 <b>north</b> 70:1 77:22 79:6 109:9,11 212:1 <b>northern</b> 24:8 26:9 29:19 70:10 247:16 <b>Northwest</b> 43:19 <b>Northwestern</b> 24:7 <b>NOS</b> 146:12 <b>note</b> 178:20 <b>notes</b> 51:15 106:21 108:14 191:14 267:14 296:9 <b>notice</b> 100:4 152:19 167:1 275:14 <b>noticed</b> 85:15 270:5 <b>notionally</b> 258:13 <b>November</b> 148:19 200:3,9,13 207:2 <b>NTHMP</b> 79:9,18 80:4 103:15 <b>nuances</b> 194:3 <b>number</b> 12:17 19:15 22:21 23:21 25:6,15,21,21 36:8 45:22 56:18 62:16 88:5 93:22 101:3 105:14 106:4,14 131:12 132:10 155:21 160:17 161:11,18 180:4 197:12 201:9 207:14 213:3,7 230:9 250:17 282:2 283:15 293:17 294:8 <b>numbers</b> 51:12 97:21 142:11 <b>numerous</b> 12:1	56:21 57:3 59:5 95:1 <b>Nunan</b> 48:20 <b>nuts</b> 142:13 <hr/> <b>O</b> <hr/> <b>o</b> 149:20 <b>Oahu</b> 15:13 29:3 109:11 111:7 112:17 127:4 <b>objectives</b> 31:8 180:19 181:4 242:4 <b>obligations</b> 226:21 <b>observation</b> 46:8 120:10,16 204:13 236:4 239:6 260:2 286:22 289:21 290:17 <b>observational</b> 120:15 <b>observations</b> 38:10 44:12 47:18 120:3 221:5,10,17 239:12 240:3 242:20 249:19 259:21 266:6 268:16 282:22 286:9 292:6 <b>observing</b> 46:5 193:5 239:13 242:16,17 <b>obvious</b> 256:8 268:3 292:5 <b>obviously</b> 28:19 107:11 163:2 164:14 188:4 192:4 198:4 199:12 219:17 225:17 239:18 260:9 268:3,6 282:2 284:10 291:3 <b>occasionally</b> 174:20 <b>occasions</b> 25:21 <b>occur</b> 227:13 275:8	<b>occurred</b> 29:4 <b>ocean</b> 9:8 10:16 24:12 31:5 42:16 46:4,9 84:8 102:14 110:2,5,12 110:14 120:16 139:20 143:2 144:21 146:6 151:10,11 168:1 168:16 178:10 180:16 181:2 189:6,18 190:6,10 193:5 211:7 236:4 239:1,6,13 240:12 242:16,16 263:7 282:4 <b>oceanic</b> 1:3 4:6 143:3 <b>oceanographic</b> 24:20 32:15 120:3 120:13 <b>oceans</b> 238:15 <b>OCS</b> 28:15 <b>October</b> 143:18 150:19 151:1 152:13 154:8,9,16 156:18 160:6,12 163:1 197:4,20 199:11,17,22 200:2,19,19 206:16 207:1 214:18 220:3 <b>offer</b> 99:18 <b>office</b> 2:4 3:5 8:16 10:3,3 11:15,22 24:20,20 28:11 32:16 64:3 99:14 100:16 133:21 139:21 141:19,19 142:1,2,21 143:7 143:9 144:15,20 146:4,9,11,12 147:11,20 148:17 148:20 149:5,12 149:15 150:2,3 151:14 156:9 159:18,19 184:16	254:19 264:6 <b>officer</b> 64:10 146:13 292:22 299:20 <b>officers</b> 240:14 <b>offices</b> 141:16 148:5 159:1 169:3 187:3 225:1 <b>official</b> 2:17 262:11 <b>officially</b> 228:21 <b>offshore</b> 111:5 126:15 212:3 213:10 <b>off-load</b> 117:16 <b>Oh</b> 103:22 220:8 273:3 285:6 287:19 292:9 294:19 <b>ohana</b> 2:7 3:9 34:20 35:1,2,4 36:13 37:22 55:9 55:12 56:19 <b>oil</b> 112:5 210:5,11 <b>okay</b> 8:10,15 14:9,9 18:12 21:15,18,19 27:11 29:16 47:16 87:7 90:15 103:18 113:9 119:17 120:17 123:21 127:20 128:14 131:5 133:6,9 138:16 139:9,10 148:22 155:12 162:4 164:17 170:2 176:6 194:5 195:5,14,20 196:4 199:17,21 200:2,7 200:12,13,15 201:8,15,16,19 203:4 205:2 207:8 211:2,17 212:5,8 215:19 216:20 217:4,9 218:8 219:6,12 220:8,21 220:22 223:11 224:4,5 225:6 227:2,8,19 237:8
--	--	--	---	--

237:12 240:20 243:4 244:15 245:11 246:4 249:6,9 257:6 259:22 260:21,22 269:21 270:20 276:1 278:18 279:3 283:1 287:1 289:20 295:13,14 296:2 299:12 <b>old</b> 26:15 208:7 <b>older</b> 203:18 <b>OMB</b> 143:10 145:3 148:15 149:12 213:2 256:9 <b>omnibus</b> 163:12 189:7,10 <b>once</b> 58:2 151:22 153:10 178:2 221:8 245:13 255:18 259:18 279:9 <b>ones</b> 57:3,6 97:2 115:6 165:8 166:17,21 167:11 175:20 187:2 209:5 221:4 250:12 277:9 294:16 <b>one-on-one</b> 184:15 <b>ongoing</b> 69:8 246:20 254:7 <b>online</b> 58:13,16 59:15 62:18 75:18 78:21 99:18 <b>Opaeula</b> 70:1 <b>opai</b> 71:3 <b>open</b> 52:20 95:7 110:14,17 126:22 170:4,7 220:2 225:4 226:16 229:22 230:5,7 231:3,14 237:20 238:5 259:19 272:8 <b>opening</b> 127:2,3 <b>opens</b> 254:22	<b>open-ocean</b> 10:19 <b>operate</b> 97:1,12 98:16 226:18 <b>operates</b> 25:5 28:7 226:10 <b>operating</b> 160:4 191:12 <b>operation</b> 108:18 186:9 235:16,22 <b>operational</b> 270:7 <b>operations</b> 49:16 50:7,21 81:4 91:8 94:5 95:22 116:12 117:9 119:13 125:15 223:4 <b>operators</b> 42:2 97:6 <b>opportunities</b> 36:3 46:1 72:19 80:1 80:10,12,22 103:15 141:9,10 180:12 181:20 183:20 184:14 186:9,16 242:15 243:3 <b>opportunity</b> 22:3 34:17 42:22 79:22 80:21 129:1 131:10 141:5 158:4 160:22 161:15 181:13 182:17 183:7,9 241:6 260:5 273:10 <b>opposed</b> 136:3 164:14 225:3 <b>opposite</b> 19:9 <b>ops</b> 54:15 177:16 250:1 <b>optimal</b> 50:3,15 51:6 58:4 59:1,17 60:18 61:5 62:20 124:14 242:7 <b>optimize</b> 111:13 242:7 <b>option</b> 115:12 212:18	<b>options</b> 218:17 <b>orchestrate</b> 193:18 <b>orchestrated</b> 238:18 <b>order</b> 4:4 31:16 51:11 59:20 94:19 95:17 185:16 <b>orders</b> 94:18 <b>Oregon</b> 212:9 <b>organization</b> 35:14 117:2 <b>organizational</b> 141:16 142:18 299:17 <b>organizations</b> 36:16 47:5 68:20 102:18 103:7 276:22 277:8 280:7 287:10 <b>organized</b> 75:19 196:3 <b>orientation</b> 140:10 170:20 229:7 <b>originated</b> 45:4 <b>Orleans</b> 185:11 209:1,3,11 216:19 218:18 <b>Orleans/Gulf</b> 217:10 <b>ought</b> 89:10,11 191:22 207:4 216:7 268:6 273:1 273:15 275:22 277:15 297:3 <b>outer</b> 111:6 <b>outfields</b> 135:11 <b>outfitted</b> 120:2 <b>outputs</b> 137:8 <b>outreach</b> 19:21 39:4,6 42:3 97:16 141:10 184:12 186:9,16,19 277:10 <b>outside</b> 77:12 138:3 153:11 187:11 <b>out-year</b> 145:22 <b>overall</b> 68:6 142:10	238:4,16 <b>overarching</b> 15:4 <b>overhead</b> 231:3 <b>overlap</b> 49:4 66:5 242:19 276:8,13 <b>overlying</b> 32:6 <b>overly</b> 263:20 <b>oversight</b> 162:3 234:22 <b>overview</b> 13:17 140:8 185:4 <b>overwhelming</b> 288:10 <b>owned</b> 88:3 103:20 <b>owner</b> 170:16 <b>owners</b> 84:15 <b>o'clock</b> 90:14 91:12 92:2 99:3 196:5 <hr/> <b>P</b> <hr/> <b>Pacific</b> 2:6,7,18 3:7 3:9 21:21,22 22:16 24:6,9 25:6 27:17 28:13,20 31:19 33:11 34:19 35:18 36:12,18 37:7 39:18 43:8 44:9 46:4 50:10 50:18 62:4 65:15 67:13 133:12 246:13 251:12,17 289:17 294:14,17 <b>package</b> 58:21 <b>paddle</b> 35:9,10 37:11 56:4 <b>paddles</b> 38:2 <b>page</b> 137:13 269:18 289:14 <b>paid</b> 235:17 <b>Pali</b> 15:14,15 <b>Palmer</b> 54:22 <b>Panama</b> 213:22 <b>panel</b> 1:6,14 2:1 3:4 4:6 5:11,20,20 6:4,9 7:6,8 8:4 22:3,12 23:1 27:2 29:7 34:17 43:1	47:19 64:13 66:5 87:12 89:2 90:1,4 102:21 105:17,20 106:10 113:11,17 120:7 121:12 132:1 134:8 138:17 140:18 157:5 165:15 170:7,12 171:17 171:21,22 172:7 172:14,15,16,20 173:1,11,11,16,21 174:3 175:21 177:17 189:13 190:1,15 191:9 192:1,20 196:14 203:8 204:2 205:17 207:16 208:14 211:5 212:13 217:16 221:6 224:15 225:5,9,19 226:10 226:14 232:4,6,13 232:18 233:2,10 233:19 234:14 238:9 239:19 245:9 253:14 255:3,13 256:22 259:7 262:12 265:13 268:22,22 270:8 271:17 279:21 280:6 285:1 287:17,19 291:21 292:20 296:21 299:3,14 <b>panelists</b> 8:6 87:8 88:19 89:4 133:8 221:3 <b>panels</b> 6:17 105:18 203:6,14,19 207:17 232:8 244:22 255:8,20 255:20 256:2 270:6 290:5 299:9 <b>papa</b> 125:16 <b>paper</b> 76:1 190:20 <b>paperwork</b> 4:11,16
---	---	--	--	--

<b>parade</b> 186:10	93:3 95:18	<b>Pennsylvania</b>	<b>periodic</b> 104:2	89:6 260:18
<b>paragraphs</b> 231:11	<b>partnered</b> 95:3	167:14	105:2	<b>piece</b> 20:16 62:15
<b>parameters</b> 138:8	<b>partnering</b> 94:22	<b>people</b> 4:14 11:7	<b>Perkins</b> 1:24 105:6	223:2
231:16	106:18	12:16 13:21 18:2	105:7 107:12	<b>pieces</b> 290:14
<b>parenthesis</b> 145:10	<b>partners</b> 14:17	19:11 20:13 21:2	169:14,18,22	<b>pier</b> 83:16,17
<b>Parke</b> 2:19 133:11	22:22 35:17 37:9	36:1 56:2,10	170:3 201:1 232:2	<b>piers</b> 88:5 131:13
133:12,16 135:15	55:7 66:4 76:19	64:20,20,21 65:1	234:4 236:9 237:9	<b>pillars</b> 67:2
135:19 137:16	79:1 98:12 182:4	65:1 67:19 69:16	<b>permits</b> 111:20	<b>pilot</b> 58:19 59:1,13
<b>parks</b> 9:16,17	<b>partnership</b> 14:1	69:16,16 73:4	<b>permitting</b> 108:1	252:13
75:14	40:9 45:20 47:1	74:10,10,10 86:11	<b>person</b> 4:12 35:9	<b>pilots</b> 126:6 281:7
<b>part</b> 58:21 68:21	78:7 103:14	97:22 98:18 99:4	61:16 122:22	282:3
69:14 83:18 84:9	<b>partnerships</b> 55:8	105:3 110:6	124:5 125:4	<b>place</b> 42:4 44:21
85:13 86:6 98:2	68:16 69:3 77:3,6	113:16 152:21	174:21 221:9	65:8 83:20 93:20
108:13 110:10,19	81:16 82:19 186:3	165:17 169:6,9	299:16	105:21 114:14
142:3 145:11	186:5	185:20 190:20	<b>personal</b> 32:14	115:8 202:13,18
149:8 155:9	<b>parts</b> 259:10	193:14,21 195:16	299:5	209:21 212:22
181:14,18 182:5	<b>pass</b> 34:10 93:14	195:17 196:7,9	<b>personally</b> 58:16	215:7 234:13
191:11 215:8	147:16 149:3	197:13 199:9	227:17 238:14	235:20,21 236:22
216:18 229:4,8	159:1,9,10 160:3	200:1 201:9,10,17	<b>personnel</b> 94:7	246:18 247:12
230:13 236:2	162:15 163:7	203:18 205:15	95:5	248:9 274:4
253:5 270:15	193:10 288:3	207:7 210:1 216:7	<b>persons</b> 68:11 86:3	295:22
298:12	<b>passed</b> 162:20	216:13,14 220:15	92:21,21	<b>placed</b> 230:7
<b>partake</b> 63:20	<b>passenger</b> 7:13	229:2 230:11	<b>person's</b> 137:1,3	<b>places</b> 27:20 40:20
<b>partial</b> 26:14	<b>passes</b> 164:4	237:17 240:15	<b>perspective</b> 33:8	70:15 207:14
<b>PARTICIPANT</b>	<b>passing</b> 33:14	241:17 261:19	35:15 91:6 97:18	216:8 217:13
165:11,16,18	<b>passion</b> 73:13	262:5 265:21	120:8 122:13	235:13,15 242:1
<b>participants</b>	<b>pass-back</b> 148:3,12	267:10,20 269:2	134:7 252:22	<b>plagued</b> 7:17
138:18	148:19 149:15	274:14 275:10,19	253:22	<b>plain</b> 70:21 254:1
<b>participate</b> 46:21	156:8	275:20 276:7	<b>perspectives</b> 41:1,6	<b>plan</b> 14:11,13,19
47:13 48:22	<b>Pastures</b> 109:2	277:14 279:5	<b>phase</b> 159:17	15:8,10,20,21
107:16	<b>pathways</b> 86:2	281:20 282:1,4	<b>phases</b> 93:22	16:13,18,20 18:13
<b>participation</b> 47:10	<b>patience</b> 14:10	284:19 285:5,8	<b>philosophical</b>	20:18 66:12 73:17
138:20 221:6	<b>pattern</b> 125:17	287:19 292:18	12:14	73:17,21 74:8,17
<b>particular</b> 22:22	<b>patterns</b> 61:14	295:1,19 296:15	<b>phone</b> 97:21 171:6	74:18 75:1,2,9,16
23:12 60:2 62:21	125:15,16	297:11 299:21	<b>phones</b> 97:21	75:18 76:3,14
89:8 94:1 125:3	<b>Paul</b> 2:11 139:14	<b>people's</b> 111:22	<b>photo</b> 39:10	115:19,22 116:6
161:3,9 198:2,12	139:16,19 150:10	<b>perceived</b> 107:8	<b>phrase</b> 151:20	142:16 144:4
266:18	150:12 151:2	<b>percent</b> 32:11	<b>physical</b> 30:12	155:22 156:4
<b>particularly</b> 6:16	153:15 157:2	50:13 96:7	<b>Ph.D</b> 1:19,21,22,23	250:16 251:4
97:10 128:17	167:17 169:14	<b>percentage</b> 96:2	2:6,17,19	263:8 265:14
196:13,16 199:5	189:2 194:1,5	<b>perfect</b> 158:21	<b>PIBHMC</b> 22:1	266:1 292:7 293:4
221:4 238:15	195:6 211:21	<b>perfectly</b> 230:15	<b>pick</b> 161:5 168:12	<b>plane</b> 34:13
261:4 266:6 288:2	212:14 260:1	<b>perform</b> 9:12	197:10 198:6	<b>planned</b> 109:10,12
<b>parties</b> 42:20 46:11	294:4	<b>performing</b> 12:1	201:1,5 220:16	112:13 186:11
<b>partly</b> 243:1	<b>paying</b> 235:22	<b>period</b> 160:10	264:17 288:17	265:17
<b>partner</b> 55:10 57:8	<b>PBS</b> 229:12	249:11,14,16	<b>picked</b> 30:2	<b>planning</b> 15:6,22
65:13 92:12,15	<b>Pearl</b> 117:8	300:10	<b>picture</b> 63:15 87:9	16:3 19:6 31:9,14

34:1 38:19 40:5 41:10 72:4,8 103:9 108:6,7 109:18,22 110:2,5 118:10 133:18 134:6 139:21 143:4 181:5 193:8 202:5 211:15 213:9 238:17 286:12,15 294:1 294:17 <b>plans</b> 74:16 93:20 95:22 114:13,18 115:8 149:3 180:18 <b>planting</b> 18:4 <b>platform</b> 46:5 <b>platforms</b> 55:19 <b>play</b> 191:22 <b>players</b> 141:14 165:18 245:21 270:17 <b>please</b> 47:6 96:10 130:11,11 131:8 133:10,15 139:1 196:3 241:1 277:21 <b>pleased</b> 260:7 <b>pleasure</b> 195:9 <b>plenty</b> 209:4 <b>plots</b> 122:22 <b>plug</b> 125:20 <b>plugged</b> 128:12 <b>plus</b> 239:2 277:9 280:13 <b>PODOSKI</b> 2:21 <b>point</b> 23:20 25:18 32:17 55:16 69:9 81:18 95:4 103:5 106:4 108:16 109:16 111:19 121:18 126:5 127:14 132:5 138:6,17 142:20 149:9 168:19 169:4,8 173:10 178:22 181:5	191:1 195:11 220:2 250:14 257:13 271:11 272:18 281:19 288:15 293:4 299:15 <b>pointed</b> 143:17 <b>points</b> 107:4 166:9 187:18 207:22 259:11 286:9,14 288:18,19,19 <b>polar</b> 54:19,20 55:1 <b>police</b> 175:15,16 <b>policy</b> 3:16 37:19 51:21 54:13,18 139:21 140:2,3 141:8 158:2 180:12,16 181:2 181:19,19 240:12 240:12 263:7 277:10 278:10 <b>polite</b> 294:9 <b>political</b> 20:22 <b>politically</b> 188:6 <b>politics</b> 21:1,1 <b>pollutants</b> 66:15 <b>Polynesian</b> 37:13 <b>pop</b> 129:16 <b>Poplar</b> 185:5 <b>popular</b> 44:21 69:13 242:17 <b>population</b> 32:10 <b>port</b> 41:22 46:15 48:21 50:1,20 60:22 93:21 103:10 117:1,3,8 117:9 118:1,20 184:3 185:11 202:4 208:11 209:9 213:15 223:19 245:15 246:2 282:7 <b>portion</b> 174:21 <b>portions</b> 251:17 <b>Portland</b> 271:8 <b>ports</b> 41:17 45:9 50:8 62:22 94:5	184:17,17,20 185:11 214:1 222:2 223:15,22 233:8,16 234:19 235:10,11 236:3,8 242:13,13 245:13 246:9,20 248:14 248:21 268:12 288:21 <b>posed</b> 48:17 <b>position</b> 172:15,16 182:15 271:21 <b>positioning</b> 40:13 61:20 254:11 <b>positions</b> 240:3 <b>positive</b> 240:1 295:6 <b>possibilities</b> 231:14 242:22 <b>possibility</b> 16:15 264:3 <b>possible</b> 66:21,22 68:10 77:10 110:4 116:1 117:7 174:15 203:2 261:17 267:18 276:10 292:4 <b>possibly</b> 19:5,10 121:8 265:11,13 <b>post</b> 65:11 298:11 298:16 <b>posted</b> 192:1 278:5 278:7 <b>post-disaster</b> 65:9 65:19 66:8 73:19 84:20 <b>pot</b> 183:8 <b>potential</b> 20:21 184:1 188:7 214:2 <b>potentially</b> 67:15 81:11 <b>power</b> 39:21 111:6 119:11 <b>PPAD</b> 140:1 229:15 <b>PPAs</b> 159:13 <b>PPB</b> 229:11	<b>practical</b> 219:16 <b>practice</b> 38:21 <b>practices</b> 84:8 <b>practitioner</b> 170:17 <b>pre</b> 66:7 <b>preamble</b> 29:6 <b>precipitation</b> 248:18,18 <b>precludes</b> 207:20 <b>predict</b> 71:14 138:10 <b>predicting</b> 62:13 <b>prediction</b> 88:21 <b>predominantly</b> 22:18 <b>preference</b> 216:12 <b>preferences</b> 198:11 <b>premier</b> 49:9 52:22 123:4 <b>preparation</b> 88:22 129:19 <b>preparations</b> 95:22 <b>prepare</b> 64:17 72:5 119:15 149:16 162:11 <b>prepared</b> 100:3,6 114:2,12 <b>preparedness</b> 38:14 41:10 68:22 69:19 99:17 100:1 101:16 103:9 105:1 118:9 <b>preparing</b> 156:9 <b>prerogative</b> 231:21 <b>presence</b> 166:12 208:2 <b>present</b> 1:17 2:9 9:3 186:15 187:22 <b>presentation</b> 7:3,21 8:2,11,12 21:16 48:15 69:7 89:11 95:13 102:22 113:13 133:17 144:16 145:1,3,5 147:5 191:6,13 250:3 271:6 <b>presentations</b> 6:4	180:4 181:6 191:8 192:13 <b>presented</b> 194:20 <b>presenters</b> 293:1 <b>presenting</b> 172:15 252:11 <b>preserve</b> 14:21 <b>President</b> 149:19 150:16,21 151:17 151:20,22 152:10 152:16 156:18 232:21 270:1 <b>Presidential</b> 81:8 <b>President's</b> 142:5 145:10 149:11,16 152:2,9,18 153:5 153:6,10,19 156:9 156:10 160:14 263:6 <b>presiding</b> 1:16 <b>pressure</b> 129:10 173:19 <b>presuming</b> 281:6 <b>pretense</b> 114:20 <b>pretty</b> 5:9 12:12 23:14 25:1 26:15 40:2 56:10 94:9 126:18 133:2 171:8 191:19 192:3,9 194:9 203:10 206:7,14 259:20 287:4 <b>prevent</b> 60:13 204:5 <b>prevention</b> 64:21 67:3 68:13 69:2 69:12,20 <b>preview</b> 82:20 <b>previous</b> 6:6,6 48:18 105:18 208:18 250:6 297:21 <b>pre-disaster</b> 65:10 80:6 <b>pre-1940</b> 26:12 <b>primarily</b> 35:20 64:19 88:2 123:17
---	---	--	---	---

265:17	<b>problem</b> 7:17	<b>Professor</b> 130:16	<b>property</b> 20:7,13	136:5 184:22
<b>primary</b> 222:4	12:11 98:6 106:20	<b>profile</b> 67:5,18 74:4	20:14,16 60:8	250:21
280:10	107:17 113:6	76:7	65:2,2,3 67:20	<b>providing</b> 23:11
<b>prime</b> 218:17	137:16 216:1	<b>program</b> 11:20,21	68:11 69:17 87:19	65:5 179:13
<b>PriMO</b> 2:8 3:9	219:11 220:17	14:3 22:20 31:2	87:21 122:17	186:22 250:22
34:20 37:18 40:11	246:20 248:5	32:4 33:5 46:6,13	187:17 223:2	<b>proximity</b> 213:3
47:7	273:8	46:14,19 79:11,13	<b>proposal</b> 145:2	<b>public</b> 10:22 11:1
<b>printed</b> 75:21	<b>problems</b> 42:12	80:5,7,8 103:3,5	<b>proposals</b> 149:9	15:1,6 18:7 19:20
297:18	104:2 114:7,8	103:13 107:14	<b>propose</b> 197:18	20:1 42:2 49:10
<b>prior</b> 105:17	139:12 201:10,11	118:15 136:9	<b>proposed</b> 108:1	73:11 74:21 81:14
106:10 151:2	286:11	143:4 161:3,10,16	150:16,20 152:16	81:15 88:1 112:21
157:12 232:4,8,13	<b>procedures</b> 136:12	184:18 199:4,8	156:19	150:16,21 156:19
<b>priorities</b> 144:9	<b>process</b> 3:16 13:13	204:10 233:20	<b>proposes</b> 151:21	180:21 189:10
148:8 182:19,20	20:9 31:22 108:8	234:13 235:10	152:6	192:16 227:1,6
183:3 188:1,16	110:4 137:7 140:4	236:3,8 244:6	<b>protect</b> 9:1 13:13	231:3 237:16,22
<b>prioritization</b>	140:12,19,21	265:18 276:12	13:14 16:4 18:1	249:10,12,13,15
67:19 115:20	141:2,15 143:13	<b>programmatically</b>	20:9,10 55:11	274:5 297:14
<b>prioritize</b> 226:6	144:10 145:13	234:16	72:6 95:10 187:17	<b>published</b> 20:3,4
244:1	149:5 155:4	<b>programs</b> 72:17	187:17	20:11 275:15
<b>prioritizing</b> 244:11	156:12 162:9	103:13 136:14	<b>protection</b> 11:20	<b>publishing</b> 131:17
<b>priority</b> 31:7 161:2	163:4,22 164:1,2	157:22 164:5,8	12:8 64:22 65:1	<b>Puerto</b> 214:16
180:19 181:3	164:15 181:10,14	168:1 172:4,6	67:3 68:11,13	<b>pull</b> 59:2 95:7
224:3,10	187:20,20 188:5	177:15 178:4,8,9	69:3,12,20 74:13	125:21 231:9
<b>private</b> 6:10 42:2	193:2 194:2	180:5 181:13	75:7	248:21 257:2
68:17 107:15	273:16,19 274:8	183:14 185:7	<b>proven</b> 6:22	<b>pulled</b> 54:16 98:21
170:16 171:7	280:22	188:12,20,22	<b>provide</b> 13:6 15:2	235:16 243:8
172:12,22 173:5	<b>processes</b> 30:11,13	190:3 193:11	22:10 23:3 35:12	<b>pulling</b> 58:15 59:13
217:20 223:2	<b>processing</b> 25:3	237:6 239:8,14	35:14 37:18 39:11	267:12
248:10 270:16	<b>produce</b> 24:22	240:1 263:13	41:2,5 46:6 66:6	<b>pulls</b> 128:2
<b>privately</b> 88:3	<b>produced</b> 80:16	<b>progress</b> 131:4	75:5 99:11 103:6	<b>punch</b> 299:13
<b>proactive</b> 14:22	<b>producing</b> 13:3	<b>prohibitively</b> 28:3	134:3,11,13	<b>Purchasing</b> 20:12
240:6	<b>product</b> 22:15	<b>project</b> 13:18 61:3	136:19 164:6	<b>pure</b> 100:2
<b>probabilities</b>	71:22 188:8	89:5,14,15 111:11	166:21 170:13	<b>purple</b> 17:16
125:13,21	298:13	112:17 117:16	173:16 181:20	<b>purpose</b> 14:19 15:4
<b>probability</b> 125:9	<b>production</b> 10:21	214:7 253:19	192:17 234:17	79:4 196:11
237:19	252:18	<b>projections</b> 13:6	236:22 280:7	267:11
<b>probably</b> 55:15	<b>products</b> 6:15,18	<b>projects</b> 60:20 61:8	<b>provided</b> 62:19	<b>purposes</b> 134:5
59:8 97:1,3,7	22:6,15 23:14,17	167:3 252:14	65:13 171:9	294:7
102:13 132:1	24:21 37:2 51:10	<b>promote</b> 19:19	178:13 251:20	<b>purveyor</b> 113:3
140:15 144:3	58:10 72:3 80:11	182:19	283:5	<b>purview</b> 122:18
201:2 207:4 209:5	80:11,17 185:21	<b>promoting</b> 171:11	<b>Providence</b> 89:3	<b>push</b> 86:7 178:18
210:6 214:18	187:14 224:18,19	240:8	179:18 210:19	215:20 216:5
218:7 239:12	224:20,21 233:7	<b>prone</b> 66:16	292:11,13	<b>pushed</b> 61:22
241:13 244:7	258:2	<b>pronounce</b> 107:3	<b>provider</b> 270:10	<b>pushes</b> 86:8
258:10 262:9	<b>professional</b>	<b>properly</b> 91:20	<b>provides</b> 15:8	<b>pushing</b> 235:7
273:14 277:4	170:16 276:21	102:5	46:14 51:11 71:22	<b>put</b> 51:14 54:14
278:6 284:3	277:7	<b>properties</b> 19:14	72:17 100:21	72:11 75:6 105:20



106:11,14 125:2,2 129:20 191:13 194:22 195:1 201:7 205:5,9 207:11 217:11 219:19 220:19 235:20 248:14 252:20 253:22 267:15 269:17 282:10 288:20 296:17 <b>puts</b> 129:15 271:21 <b>putting</b> 136:11 161:9 211:15 236:17 239:1 255:12 <b>P-R-O-C-E-E-D-...</b> 4:1 <b>p.m</b> 90:8,14,15 195:22 196:1 300:14	100:11 133:7 143:12 147:6 149:1 166:19 194:4 195:6 244:4 255:12,15 257:11 259:9,13 265:15 286:17 298:20 <b>quick</b> 25:2 33:7 46:3 82:20 119:19 123:7 140:8 192:12 205:4 249:14 254:15 279:9 <b>quickly</b> 36:5 117:6 176:7 190:5 257:16 <b>quite</b> 9:9 84:19 140:14 242:9 243:10 268:8 293:13 <b>quote</b> 269:22	<b>reaching</b> 98:10 <b>react</b> 16:9 91:19 152:21 269:12,15 <b>reacted</b> 150:22 <b>read</b> 142:19 174:13 238:11 <b>readily</b> 264:8,9 <b>reading</b> 243:13 <b>reads</b> 294:18 <b>ready</b> 146:8,21 147:10 148:15 195:11 262:18 <b>real</b> 79:4,22 107:7 130:3 131:3 190:5 249:14 252:1 <b>realistic</b> 267:7 <b>realities</b> 140:21 <b>reality</b> 11:6 140:18 <b>realize</b> 31:16 135:10 143:14 259:20 <b>realized</b> 27:5 <b>really</b> 13:17,19,22 15:4 16:1 22:13 23:21 27:7 32:9 32:14 33:17 36:21 40:22 45:14 60:10 60:15 63:2 65:14 66:1,9 69:13 72:20 80:16 82:1 83:1,4,17 84:4 97:6,13 98:3,3,9 98:14,20 104:20 109:15 117:17,22 118:2,4 132:16 136:18 148:8 152:6 161:5 168:16 178:8,17 181:9 182:2 183:17 184:4 185:12 190:19,20 193:20 198:6 201:13 202:21 214:17 229:17 234:21 238:22 239:4,8 243:11 244:22 246:10	248:12 251:5,8,12 251:18 253:21 255:19,20 257:15 260:9 263:1 266:5 289:3 290:5 295:8 <b>realm</b> 23:16 61:6 260:13 <b>real-time</b> 62:13 78:20 127:15,19 128:1 <b>reams</b> 76:1 <b>reapply</b> 262:2 274:18 275:3 <b>reappointed</b> 262:1 262:2 274:18 <b>reappointing</b> 262:5 <b>reappointments</b> 275:7 <b>reason</b> 11:9 16:2,12 28:6 112:1 214:4 <b>reasonable</b> 76:21 78:9 163:14 257:3 <b>reasons</b> 197:1 290:7 <b>rebuild</b> 84:17 <b>recall</b> 90:5 109:20 <b>recap</b> 3:2 33:7 <b>receive</b> 73:18 74:19 75:16 81:11,13 100:15 225:4 266:12 <b>received</b> 22:20 81:8 <b>receives</b> 191:9 <b>recognition</b> 32:3 299:5 <b>recognize</b> 39:9 111:15 184:9 188:17 189:21 <b>recognizing</b> 76:11 <b>recommend</b> 106:16 134:8 171:14 215:13 <b>recommendation</b> 29:16 33:4 94:16 102:10 105:13 106:11 107:20 233:19 234:11,17	284:11,17 285:17 286:5,21 289:11 290:20 <b>recommendations</b> 6:13 22:12 27:2 49:3 95:6 96:21 102:8,16 105:9,17 140:20 141:1 146:16 172:18,20 232:3,8 233:15 247:6 268:18 280:11,11 283:16 283:19,21 284:8,9 284:21 285:2,4,6 285:10,12,20 286:8 288:1 289:4 <b>recommending</b> 29:8 31:1 <b>recommends</b> 171:22 <b>reconstitute</b> 117:1 117:3 <b>reconstruct</b> 229:17 <b>record</b> 139:7 189:16 195:22 198:1 199:19 <b>recording</b> 201:9 297:15 <b>records</b> 91:22 191:18 <b>recovery</b> 66:4 67:3 81:13 242:7 <b>recreate</b> 15:21 <b>recreational</b> 42:4,9 42:10 55:13 56:5 57:13 94:15 95:2 96:3,18 97:9,14 98:5 99:12,17 100:1,14,18 101:17,20,22 102:2 103:11 <b>recurring</b> 288:22 <b>reduce</b> 21:7 65:2 69:15 131:14 <b>reduced</b> 81:5 119:6 <b>reduction</b> 38:18 80:5
<b>Q</b>	<b>R</b>			
<b>qualitative</b> 118:10 <b>quantitative</b> 118:11 <b>queasy</b> 175:13 <b>question</b> 7:5 69:10 88:19 90:4 101:14 107:21 108:11 111:17 113:15 119:20 126:4 127:13 132:12 136:22 137:20 145:7 166:6 169:15 173:3 189:4 192:12 203:5,7 210:19 225:8,10,15 226:17 227:9,11 232:3 237:14 285:11 296:3 300:8 <b>questioning</b> 251:13 <b>questions</b> 8:3,8 21:14,17 34:6 48:16 63:21	<b>R</b> 1:24 <b>radar</b> 128:9 <b>radical</b> 128:19 <b>radio</b> 100:18,20 101:8 <b>radios</b> 57:18 <b>rain</b> 70:13 <b>raining</b> 48:1 <b>rains</b> 70:16 <b>raise</b> 197:22 <b>raises</b> 241:8 <b>rambled</b> 249:8 <b>Ramon</b> 214:11 <b>ramps</b> 88:5 <b>rams</b> 86:2 <b>ran</b> 70:19 260:18 <b>range</b> 115:9 243:13 <b>ranging</b> 250:11 <b>ranking</b> 167:14 <b>rapid</b> 68:14 <b>rare</b> 155:8 <b>rational</b> 13:13 <b>Ray</b> 50:22 <b>razed</b> 84:15			

<b>reductions</b> 27:1	215:16	112:2 151:20	<b>requested</b> 108:4	246:14 256:19
<b>reef</b> 22:16,19 23:13	<b>regularly</b> 78:2	152:19 179:17	<b>requests</b> 27:7 33:12	287:10 289:19
284:20	<b>regulate</b> 10:12,18	182:13 189:5	82:18 108:7 161:2	<b>respect</b> 84:3 109:17
<b>refer</b> 37:10	10:19,19,20,22,22	295:19	<b>require</b> 242:10	<b>respectful</b> 232:14
<b>reference</b> 74:17	<b>regulating</b> 10:5	<b>remind</b> 263:20	<b>required</b> 25:4	<b>respects</b> 174:5
144:3 189:19	12:3	<b>reminding</b> 273:11	73:15,21 76:5	<b>respiratory</b> 66:17
230:22 251:1	<b>Regulations</b> 74:1	<b>remote</b> 24:9 44:7	93:6 122:16 230:5	<b>respond</b> 60:3 64:18
258:21 269:6	178:5	<b>removal</b> 122:15	283:18	65:22 116:15
273:12	<b>regulatory</b> 10:7,8	<b>remove</b> 75:4	<b>requirement</b>	118:7 134:21
<b>referenced</b> 71:19	18:13,15 20:21	<b>removing</b> 133:21	256:13	147:8 193:11
80:14	<b>reinforce</b> 260:17	<b>reopening</b> 210:11	<b>requirements</b>	<b>response</b> 39:3
<b>references</b> 293:6	<b>reiterate</b> 62:6	210:12	202:1 230:6	41:10 56:14 66:4
<b>refined</b> 147:12	290:9	<b>repetitive</b> 78:3	231:13 251:9	68:21 132:20
<b>reflect</b> 27:4	<b>reiterating</b> 43:15	173:5	252:1,2 256:16	199:5 223:7
<b>reflective</b> 127:1	102:21	<b>replace</b> 133:1	261:10	240:16
<b>regard</b> 100:13	<b>relate</b> 263:9,13	<b>replicable</b> 15:20	<b>requires</b> 191:12	<b>responsibilities</b> 9:9
<b>regarding</b> 13:4	264:1	<b>report</b> 54:16 91:7	<b>rescue</b> 61:14 99:16	173:6
101:15 102:8	<b>related</b> 22:6 46:12	118:14 121:4	122:21 123:8,15	<b>responsibility</b> 9:1
111:16 133:17	81:7 185:21	230:18,20 253:3	123:20 124:18	10:11 49:20 50:1
232:3	252:12 254:7	<b>Reporter</b> 96:9	223:4	50:5,5 68:8
<b>regards</b> 41:9 45:8	265:6	240:22 297:15	<b>research</b> 80:22	111:22 120:2
55:13 58:4	<b>relates</b> 213:10	298:2 300:4	131:18 143:3	<b>responsible</b> 9:5,6
<b>region</b> 2:18 22:17	222:6	<b>Reporter's</b> 191:14	237:21 248:9	9:19,21 10:5
24:6 25:6,8 26:18	<b>relationship</b> 99:14	<b>reports</b> 208:7	252:12 254:6	49:21 108:1
27:17 28:14,20	139:2	258:2,4 285:22	<b>researched</b> 106:21	<b>rest</b> 75:9 155:12
29:14 30:4,12	<b>relationships</b> 40:10	<b>represent</b> 165:14	<b>residential</b> 72:14	196:11
31:3,19 33:11	41:1 183:19 186:2	170:9 183:9	87:21	<b>restoration</b> 12:18
36:4,7 37:8 38:19	<b>relative</b> 69:5 71:13	275:11 280:8	<b>residents</b> 68:9	50:7 56:14 185:9
39:6,16 41:12,18	78:16 79:5 82:14	<b>representative</b>	92:17	<b>restore</b> 14:21 95:22
126:13,18 201:7	82:15 88:4 223:18	51:19 170:10	<b>resilience</b> 36:17	<b>restored</b> 75:14
210:11 212:20	293:18	175:12 179:4	46:13	<b>restrict</b> 153:13
214:15 219:9	<b>relevance</b> 222:15	282:18 292:19	<b>resiliency</b> 16:18	<b>restriction</b> 159:14
296:1	253:6	<b>representatives</b>	<b>resolution</b> 23:2	<b>restrictions</b> 230:8
<b>regional</b> 2:18 5:12	<b>relevant</b> 79:2	47:5 161:22	32:7 136:15	<b>result</b> 16:18 72:3
29:12 33:16 36:8	176:19 290:13	174:15 221:22	154:20,21 155:14	73:14 76:12,16
36:15 130:13	<b>relocating</b> 12:21	241:5 249:18	157:15	77:20 81:6 83:6
254:16 255:5,11	<b>rely</b> 56:17 61:13	270:12	<b>resolutions</b> 157:6,7	88:1 111:8 114:13
256:1 264:18	68:14 69:18 72:2	<b>represented</b> 280:9	158:20 163:4	130:20 275:8
279:15 281:5	77:6 95:14	<b>representing</b>	<b>Reson</b> 28:9	<b>resulted</b> 70:18
294:14	<b>remainder</b> 155:14	172:14 289:17	<b>resort</b> 1:15 163:12	85:10
<b>regionally</b> 294:15	<b>remained</b> 93:8	<b>Republicans</b>	<b>resource</b> 9:12 15:5	<b>results</b> 230:18
<b>regions</b> 55:2	<b>remark</b> 105:11	167:10	<b>resources</b> 2:5 3:6	<b>resume</b> 75:14
109:21	<b>remarkable</b> 80:16	<b>request</b> 29:17 52:6	8:19,21 9:2,6,7,15	139:10
<b>register</b> 275:16	<b>remarks</b> 5:6,7 46:3	111:4 122:3	14:3 37:19 53:9	<b>resumed</b> 139:8
278:5	<b>remediation</b>	137:12 142:6	66:3 68:15 138:11	196:1
<b>registered</b> 56:1	132:21	149:11,17,20	176:13 177:2,3	<b>return</b> 278:17
<b>regular</b> 10:5 97:20	<b>remember</b> 99:2	160:14 291:8	180:10 194:21	<b>returning</b> 288:2

<b>revenue</b> 121:9	220:21 233:8	<b>roll</b> 262:18	<b>sad</b> 84:5 235:19	<b>saying</b> 140:5
<b>reverse</b> 19:15	236:15 242:18	<b>rolling</b> 98:2 156:10	<b>safe</b> 33:20 51:12	153:14,21 154:22
21:11 95:12	248:9 249:10	<b>rolls</b> 155:7	59:18 98:15,16	161:12 169:12
<b>review</b> 1:6,14 4:5	259:14 271:16	<b>roll-call</b> 114:22	236:22	231:13 234:12
6:8 22:2 60:20	272:12 276:19	<b>room</b> 36:1 110:21	<b>safely</b> 98:16	269:2 274:9
76:15 82:20	278:19 281:14	157:10 227:5,6	<b>safer</b> 246:3	275:21 278:13
106:10 146:12	282:6,16,21 292:8	260:8	<b>safest</b> 95:7	284:1 285:14
149:4 159:18	292:8 295:9,11,17	<b>Rooney</b> 2:6 3:7	<b>safety</b> 42:16 46:9	288:1
170:7,12 171:16	295:18,20 297:13	21:18,19,20 34:9	46:12 49:11 61:6	<b>says</b> 151:7,17
172:7 174:3 278:8	298:18	37:6 43:22 71:20	65:5 99:15,19	164:17 241:8
278:9,10,11	<b>rights</b> 173:6	80:13 107:5 111:2	100:16 102:14	290:20
280:12,22	<b>ring</b> 290:9	137:22	116:4 122:16	<b>scarce</b> 242:8
<b>reviewer</b> 26:8	<b>rings</b> 144:14	<b>Rota</b> 29:18	<b>sail</b> 58:20 186:10	<b>scatter</b> 136:13
<b>reviews</b> 147:3	<b>rise</b> 14:20 16:10	<b>rotated</b> 182:12,15	<b>sails</b> 104:18,18	<b>scattered</b> 25:13
<b>re-authorization</b>	17:6,8,10,12,13	<b>rotors</b> 112:4	<b>sake</b> 135:16	<b>schedule</b> 132:2
178:1	17:13,17 43:8	<b>rough</b> 96:5	<b>salinity</b> 120:15	197:21
<b>re-collect</b> 32:20	44:3 76:10 89:7	<b>roughly</b> 50:4 52:20	<b>Sam</b> 3:5 7:15 71:19	<b>scheduled</b> 139:5
<b>Rhode</b> 89:3 96:16	237:2	90:13 197:5	88:12 107:22	179:14 196:4
<b>Rich</b> 249:19 252:7	<b>risk</b> 2:7 3:9 34:19	<b>round</b> 273:16	<b>Samaritan</b> 52:17	<b>schedules</b> 150:15
290:2	35:7,21 36:13	<b>roundtable</b> 35:16	<b>Samoa</b> 24:7 28:2	198:17
<b>RICHARD</b> 2:13	37:1 38:18 41:6	<b>rousing</b> 91:17	39:21 40:1 43:19	<b>schemes</b> 138:13
<b>Rich's</b> 239:8,14	46:16 65:2 67:19	<b>route</b> 296:22	<b>sample</b> 136:17	<b>School</b> 24:12
<b>Rico/Virginia</b>	69:16 74:6 76:16	<b>routes</b> 85:7 111:5	289:11	292:22
214:16	92:21,21 118:11	111:13	<b>samples</b> 135:3	<b>schools</b> 248:10
<b>ridge</b> 109:3	118:16,18 123:1	<b>routine</b> 135:3	297:20	<b>science</b> 2:20 15:5
<b>ridiculous</b> 32:18	<b>risks</b> 76:11	<b>routinely</b> 276:22	<b>sampling</b> 133:22	20:19 21:21 22:5
<b>riding</b> 223:22	<b>river</b> 70:5 114:4	<b>row</b> 47:20 208:20	134:1,1,10	23:15 24:13 33:19
<b>right</b> 5:5 7:11 8:10	116:3 185:17	216:2,8	<b>SAMUEL</b> 2:4	54:21 79:4 129:6
8:14 17:20 27:11	<b>rivers</b> 168:14,15	<b>rule</b> 274:22	<b>San</b> 114:7 186:13	133:13 165:2
30:19 32:9 41:14	<b>road</b> 75:13 112:12	<b>ruled</b> 275:2	201:4 214:20	167:8 176:9,13
44:20 63:18 65:14	158:17 188:9	<b>rules</b> 279:13 280:5	<b>sand</b> 135:8	177:3 257:20
70:19 73:9 77:14	217:15 256:14	<b>rump</b> 227:4	<b>sandbar</b> 87:4	258:8
81:4 91:1 98:9	<b>roads</b> 11:1 216:10	<b>run</b> 52:7 111:9	<b>sandy</b> 23:6	<b>Sciences</b> 277:8
106:5,7 107:3,12	<b>Robertson</b> 130:16	136:13 217:20	<b>SAPs</b> 180:18	<b>scientific</b> 282:5
122:10 126:12	<b>Robin</b> 42:17	218:20 239:12	<b>SAR</b> 125:15	<b>scientists</b> 72:1
129:3 133:9	102:13	279:9	<b>SAROPS</b> 124:21	<b>scope</b> 258:20
139:10 145:16	<b>robust</b> 62:1	<b>running</b> 153:14	124:21 125:6	<b>Scott</b> 1:24 103:19
165:20 166:3	<b>rock</b> 133:2	166:3	<b>sat</b> 87:10	105:5 231:22
167:4 169:18,20	<b>rocky</b> 23:6	<b>runs</b> 17:20 177:19	<b>satellite</b> 29:20	237:11 270:4
170:3 172:1	<b>Roger</b> 225:11	178:22 226:15	143:2 157:21	<b>Scott's</b> 266:6
183:22 190:9,22	276:10	<b>Rupert</b> 112:18	<b>save</b> 40:22	<b>screen</b> 165:8
196:2 198:22	<b>role</b> 6:11 69:5 79:4	<b>rushing</b> 85:20	<b>saved</b> 78:18,18	<b>se</b> 286:21
199:21 201:8,15	79:17 81:5 142:4	<b>Ryan</b> 2:21 299:6	<b>savvy</b> 238:2	<b>sea</b> 2:14 11:2 12:12
205:13 206:1	173:14,15,17	<b>R/V</b> 28:8 29:22	<b>saw</b> 67:22 68:3	12:16 14:3,17,20
211:9,11 213:16	224:11,15 230:17	33:16	74:4 82:21,22	16:9,10 17:2,6,8
216:2,3,20 217:4	243:22 280:17		83:3 84:20 102:6	17:10,12,12,13,16
218:8 219:1	<b>roles</b> 93:5 293:18		131:16 242:4	20:12 23:4 33:9
		<b>S</b>		

43:8 44:3 50:14 76:10,13 83:7 97:4 116:7 127:11 237:2 251:6 <b>seamless</b> 289:8 <b>search</b> 61:13,14 99:15 122:21 123:8,15,19 124:17 126:2 219:4 223:3 <b>searching</b> 124:10 <b>seat</b> 34:15 <b>Seattle</b> 228:8,9,20 228:22 <b>seaward</b> 18:2,6,21 19:3 <b>second</b> 31:8 35:8 43:4 49:2 52:15 62:7 144:15 148:9 171:19 177:11 205:17 228:16 273:5 281:13 <b>seconds</b> 298:19 <b>secret</b> 295:16 <b>Secretary</b> 232:20 264:6 <b>section</b> 210:21 <b>sections</b> 17:15 <b>sector</b> 2:3 3:11 6:11 96:8,14 107:15 248:10 270:16 <b>sectors</b> 103:11 118:19 <b>secure</b> 51:12 102:5 <b>securities</b> 113:1 <b>security</b> 41:17 43:2 49:11 61:7 79:19 80:9 107:8,11 <b>sediment</b> 30:13,14 121:16 138:9 <b>sedimentological</b> 138:6 <b>see</b> 14:16 17:16,19 18:19 23:5 26:11 30:5 33:21 34:2 42:8 44:13 49:3 56:16 58:9 61:18	63:8,8 64:16 67:6 68:12 69:2 70:10 73:3 75:20 76:14 77:4 81:19 87:1 102:2 125:12 127:8 151:2 159:21 162:12 165:7 166:4 192:1 196:2 202:22 213:21 222:13 226:3 240:11 242:14,18 246:19 248:3 249:8 252:10 258:2,11 262:20 267:20 269:11 272:7 277:18 292:21 294:19 297:22 299:22 <b>seeing</b> 67:18 127:7 300:11 <b>seek</b> 77:11 82:17 <b>seeking</b> 78:3 <b>seen</b> 56:3 70:22 71:9 84:1 89:11 104:3,4 141:17 180:3 212:20 <b>sees</b> 206:12 <b>seismic</b> 67:14 73:9 <b>select</b> 100:17 278:21 <b>selected</b> 19:14 281:2 <b>selecting</b> 280:17 <b>selection</b> 274:11 278:21 <b>selections</b> 280:20 <b>self</b> 27:12 52:8 <b>self-promotion</b> 240:8 <b>self-sustaining</b> 53:12 <b>sell</b> 238:21 <b>Senate</b> 162:17,21 164:9,10,21,22 167:17,18,19 168:2,11 176:8	<b>senator</b> 166:2 174:2 175:3,5 <b>Senators</b> 165:22 <b>send</b> 161:22 189:15 189:17 194:14 231:16 269:22 283:22 291:2,3 296:9,14 <b>sending</b> 275:15 277:17 278:2 298:14 <b>sends</b> 151:22 <b>sense</b> 10:7 11:5 78:15 198:3 286:17 <b>sensible</b> 253:13 <b>sensors</b> 120:3 248:15 <b>sent</b> 156:3 277:5 <b>separate</b> 145:12 158:12 <b>separated</b> 25:10 <b>separately</b> 296:10 <b>September</b> 148:11 154:5 160:11 162:21 <b>series</b> 149:21 187:22 <b>seriously</b> 106:15 <b>serve</b> 55:11 80:2 182:16,18 232:18 <b>served</b> 223:10 <b>serves</b> 232:19,20 <b>service</b> 38:18 49:10 49:15 62:18,20 77:17,18 78:21 95:14 139:20 143:2,4 144:21 146:6 151:10,11 177:10 178:10 184:9,21 248:16 <b>services</b> 1:6,14 2:18 4:5 6:8,14,18 22:2 22:6 37:2 55:19 58:10 62:19 64:12 65:9,12,16,18 66:6 69:9 75:14	99:11 105:19 106:10 121:21 130:14 141:7 151:9 157:21 161:13 165:10 170:7,11 171:16 172:7 174:3 176:18,20 177:7 178:15,21 179:6,7 179:12 184:5 185:7,16,21 186:22 187:3,14 188:13 189:17 210:10 213:4 222:2 225:20 226:4,7 251:20 254:20 263:11,12 290:14 <b>servicing</b> 36:8 <b>serving</b> 27:13 282:4 <b>session</b> 204:3 <b>sessions</b> 227:4,4 <b>set</b> 5:18 52:4 54:6 58:11 102:16 114:21 115:3 117:2 154:18 160:16 207:19 250:18 255:13,18 <b>sets</b> 157:13 <b>seven</b> 53:15,17 90:22 91:2 129:1 207:16,18 267:18 <b>shameless</b> 32:14 <b>shaped</b> 22:7 <b>share</b> 25:6 41:20 212:20 277:13 <b>sharing</b> 38:11,11 105:14 106:17 259:16 276:9 <b>sheet</b> 4:20 <b>sheets</b> 297:14 <b>Sherri</b> 1:21 208:9 244:16,19 272:18 <b>Sherri's</b> 281:12 <b>she'll</b> 166:5 294:19 <b>shift</b> 12:15	<b>Shingledecker</b> 1:25 99:8,9 103:17 224:8 <b>ship</b> 29:14 30:1 41:15 54:22 186:10 194:17 202:4,19,19 247:19 281:20 282:1,15,18 284:19 <b>shipper</b> 282:9 <b>shipping</b> 117:6 120:19 222:2 245:16,21 <b>ships</b> 114:4,9 116:10 120:12 181:22 202:13,14 215:15 245:5 246:1 247:12 <b>shoes</b> 272:3 <b>shore</b> 20:2 29:3 30:8,14,16 33:18 70:1 77:22 109:9 109:11 212:2 240:2 <b>shoreline</b> 12:21 13:4 17:9 20:7,17 21:8,10 254:8 <b>shorelines</b> 10:15 13:12 43:13 52:21 <b>short</b> 21:2 22:1 59:18 231:11 300:9 <b>shortly</b> 92:1 <b>shot</b> 86:16,16 <b>show</b> 25:20 26:5 49:19 138:12 141:16 185:12 217:22 252:4 263:13 <b>showed</b> 43:22 188:5 238:9 245:8 <b>showing</b> 63:5,7 127:8 <b>shown</b> 37:6 261:19 <b>shows</b> 45:1 <b>shrimp</b> 71:4
---	--	--	--	--

<b>shrimping</b> 210:12	<b>sister-in-law</b> 87:13	274:5 275:9 277:1	<b>sounds</b> 88:15 216:6	52:1 56:21 60:21
<b>shrinking</b> 79:14,15	<b>sit</b> 53:8 170:17,22	<b>soliciting</b> 273:16	218:13 259:19	100:10 103:1
79:16 134:12	<b>site</b> 75:19 192:10	<b>solve</b> 106:20 248:5	264:21 267:5	130:18 173:11,15
<b>shy</b> 88:4	197:15 202:3,10	<b>solved</b> 107:13,18	<b>source</b> 26:10	233:7 238:22
<b>side</b> 15:13,18 55:14	202:11,15 203:2	139:12	<b>sources</b> 106:20	<b>specificity</b> 107:2
57:13 59:11 93:17	204:10 299:15	<b>somebody</b> 33:8	128:7 222:20	<b>specifics</b> 59:12
94:15 95:12	<b>sitting</b> 26:12 84:2	59:8 137:2 151:4	<b>south</b> 29:3 111:18	<b>speed</b> 45:9 229:3
132:13 141:5,8	87:9 89:1 105:16	168:18 204:20	166:9	262:17
142:7 167:7 212:1	106:22 170:11	209:22 275:22	<b>Southern</b> 89:5	<b>speeds</b> 45:15 131:1
221:16 244:2	270:12	280:21 284:4	<b>Spa</b> 1:15	<b>spend</b> 62:16 120:10
251:2 253:5,12	<b>situation</b> 52:17	298:7	<b>space</b> 176:14 177:3	123:6 155:17,22
268:8 280:2	54:12 57:7 113:18	<b>somewhat</b> 222:6	246:11,13	156:1,4 157:18
290:11	116:3,13,21 118:4	<b>sonar</b> 247:17,18,22	<b>span</b> 250:20	196:19 221:2
<b>sierra</b> 125:16	157:11 274:3	<b>soon</b> 117:7 180:21	<b>spatial</b> 31:9,13,18	<b>spending</b> 142:11,16
<b>sign</b> 4:21 296:19,21	275:14	278:17	34:1,4 108:5,6	155:1 160:20
297:14	<b>situations</b> 48:17	<b>sooner</b> 61:16	109:22,22 110:2,5	161:18 164:6
<b>signal</b> 129:15 130:4	116:5	122:22 219:17	133:18 134:5	<b>spends</b> 88:20
<b>signals</b> 284:5 285:8	<b>six</b> 28:14 152:20	<b>sorry</b> 87:5 130:12	181:4,11 193:8	<b>spent</b> 40:15 84:10
<b>signature</b> 297:1	160:10 207:15	153:15 199:16	213:9 238:17	190:11 235:20,21
<b>signed</b> 192:19	267:18	<b>sort</b> 112:6 113:10	268:18 269:6	291:9
297:9	<b>size</b> 138:7	120:19 121:1,10	286:12,15 294:1	<b>spill</b> 210:5
<b>significance</b> 165:12	<b>skills</b> 279:19	121:22 123:9	294:17	<b>split</b> 140:1
<b>significant</b> 41:11	<b>skim</b> 263:19 292:14	130:1 142:13	<b>speak</b> 48:6,12 52:1	<b>spoke</b> 78:2 85:15
42:12 43:2 66:13	<b>skip</b> 224:5	194:1 195:2	78:14 88:11	131:9 270:6
66:16 68:1,2,7,21	<b>slide</b> 14:5 26:6	201:22 207:7	203:17 209:7	<b>sponsored</b> 38:15
69:6 71:15 77:9	34:21 69:7 77:2	208:2 210:9 216:5	241:1 265:3	<b>spot</b> 185:6
83:8 85:8 130:20	153:18 169:15,16	217:8 219:17	<b>speaker</b> 7:8 271:9	<b>spots</b> 207:9
<b>sign-in</b> 4:20	<b>slides</b> 77:4,5	221:9 223:9	<b>speakers</b> 299:11	<b>spot-on</b> 105:9
<b>Silver</b> 31:15 228:22	<b>sliver</b> 43:22	225:22 226:14,16	<b>speaks</b> 106:9	233:21
261:8 264:13	<b>slots</b> 269:18	229:2 232:10	296:16	<b>sprawled</b> 53:5
<b>similar</b> 15:21 35:3	<b>slow</b> 192:21	257:3 258:13,19	<b>special</b> 19:6 94:17	<b>spreadsheets</b> 245:8
225:10	<b>small</b> 42:1 57:16	259:12 263:6,15	94:18 173:9,10	<b>Spring</b> 31:15 197:7
<b>simple</b> 15:8 58:22	61:6 84:16 88:15	265:6,15 266:18	<b>specialized</b> 11:16	207:6 228:22
64:17 229:20	101:16 108:12	271:9 274:21	<b>specific</b> 9:11 22:14	233:1 261:9
253:9 259:19	112:7 114:1	275:14 276:3	27:7 37:2 59:3	264:13
<b>simplified</b> 194:1	115:13 246:11	283:9,10,17	99:21 100:10	<b>squared</b> 63:12
<b>simply</b> 52:7 54:3	<b>smaller</b> 108:20	285:22 288:3	102:7,10 103:10	<b>stab</b> 77:18 91:4
115:10 135:11	115:10 118:21	289:3 290:3	105:9 119:20	291:15
218:18 227:14	167:9	291:20 292:16	197:15 224:9	<b>staff</b> 72:2 83:14
269:16,19	<b>smashed</b> 87:16	<b>sorts</b> 114:6	225:2 233:14	174:21 183:17
<b>single</b> 27:22	133:1	<b>sound</b> 78:11 82:4,9	250:3,12 279:13	185:13 196:22
<b>single-sided</b> 75:21	<b>smoothly</b> 210:1	91:14 92:4 269:6	279:18 281:6	198:7 231:8 241:4
75:22	<b>snipped</b> 26:6	300:5	283:16,21 284:8	262:21 265:18
<b>sir</b> 34:13 48:9	<b>societies</b> 276:21	<b>sounded</b> 91:21	284:22 286:4	283:7 287:16
153:16	<b>society</b> 58:3	<b>sounder</b> 28:9	290:20	291:16 298:10
<b>sirens</b> 82:4,9 91:11	<b>sold</b> 212:3	<b>sounding</b> 91:10,21	<b>specifically</b> 12:2	299:16
91:20 92:4,20	<b>solicitation</b> 273:19	92:1,19	33:10 38:7 43:18	<b>staffers</b> 287:7

<b>Stafford</b> 73:22	197:19 199:16	<b>stays</b> 70:18	<b>stream</b> 71:2	<b>subjects</b> 221:13
<b>stage</b> 5:18	257:13	<b>steep</b> 73:2	<b>streams</b> 70:2 71:16	<b>submarines</b> 45:6
<b>stages</b> 160:8	<b>starts</b> 143:15,17,18	<b>Stein</b> 2:7 3:9 7:9,9	127:16	55:18
<b>stakeholder</b> 2:1 3:4	145:19 150:19	7:10,12 34:9,12	<b>strengthen</b> 183:18	<b>submerged</b> 10:16
7:7 19:19 45:20	153:20,21 154:7	34:16,18 47:17,21	186:2	<b>submission</b> 145:18
202:8 203:6,14,19	156:18 204:16	48:2 49:2 62:7	<b>stretch</b> 283:20	148:14
212:12 255:8	<b>state</b> 2:4 3:13 8:21	102:9 118:5 131:6	<b>strive</b> 247:5	<b>submit</b> 82:18 142:5
270:5 299:9	9:17,18,20,22	131:9 159:4,7,12	<b>strong</b> 131:15	146:8 147:1,2
<b>stakeholders</b> 24:2	10:6,9,12,15	<b>step</b> 115:14 117:11	181:10 213:6,13	161:1
56:7 102:15 110:3	11:18 12:7 13:4,7	144:19 154:13	<b>strongly</b> 131:14	<b>submits</b> 148:16
138:19 210:7	13:10 18:3 36:6	180:22 272:2	134:7 216:14	<b>submitted</b> 149:11
243:9 244:22	54:10 56:9 64:9	<b>stepped</b> 12:5	<b>structural</b> 85:1	<b>subset</b> 259:7
270:15 290:5	64:11,11,15,16	<b>steps</b> 3:22 65:8	<b>structure</b> 82:15	<b>substrates</b> 23:7
292:19,20	66:7,22 67:7 68:7	115:3,15 144:10	204:10	<b>sub-working</b> 230:4
<b>stance</b> 158:9	68:13,16 70:7,20	187:22	<b>structured</b> 221:11	<b>succeed</b> 62:11
<b>stand</b> 228:11	71:21 73:15 74:9	<b>Steve</b> 281:21	257:21	<b>suffered</b> 81:15
276:16	74:11,17,19 75:1	<b>Stevens</b> 166:3	<b>structures</b> 12:21	82:14
<b>standard</b> 137:7,8	75:2,12 76:12,18	<b>stick</b> 237:3,7	17:21 18:21 72:14	<b>sufficient</b> 23:7
138:8	79:5,12 81:11,17	<b>stimulus</b> 111:8	72:15 86:1,1,4,5,5	<b>suggest</b> 29:7
<b>standardized</b>	83:2 85:10 91:5	294:6	88:2 130:22	172:14 221:1
136:12 137:6	92:6 93:4 95:4	<b>stop</b> 79:15	<b>struggling</b> 224:14	241:17 242:3
<b>standards</b> 14:22	97:22 98:11 99:21	<b>store</b> 247:11	<b>stuck</b> 135:21	267:13,15 277:4
18:16	100:10 102:12	<b>stored</b> 130:5	<b>student</b> 241:7	277:12 291:14
<b>standing</b> 70:13	103:4 104:7 105:1	<b>storm</b> 43:9 44:4	<b>study</b> 17:1,4 156:20	296:9
257:22	112:20,21 133:5	251:6	<b>stuff</b> 7:18 123:10	<b>suggested</b> 241:17
<b>standpoint</b> 211:5	175:16 184:8	<b>story</b> 84:5 152:13	126:13 135:9	258:15
<b>stands</b> 276:13	212:3 256:20	180:8 187:8 209:6	153:2 180:2 192:6	<b>suggestion</b> 137:12
<b>Star</b> 54:20	<b>stated</b> 235:10	<b>straight</b> 7:5	193:18 229:10	211:20
<b>start</b> 92:10 93:22	<b>statements</b> 8:7	<b>straight-up</b> 19:17	240:18 243:21	<b>suggestions</b> 6:20
95:16 106:17	54:18	<b>strange</b> 6:7 189:7	255:16 264:1	139:1 277:21
124:10 125:14	<b>states</b> 13:7 41:13	<b>strategic</b> 69:1,10	268:20 278:2	<b>Sullivan</b> 239:10
145:22 146:4,7	43:3 46:20,20	144:2,4,5 165:18	287:4,5 294:22,22	<b>summaries</b> 192:19
156:22 162:9	51:21 55:4 76:6	180:18 196:16	<b>subcommittee</b>	<b>summarize</b> 137:13
163:1 167:21	77:17 79:7 103:7	202:5 206:8 211:6	106:17 162:14	<b>summarized</b> 283:9
195:18 196:9	167:18,20 168:7	221:13 255:16	163:6 165:1,3,5	<b>summary</b> 191:15
204:14 218:19	169:2 235:3	263:8 265:5,9	167:7,8 168:2,3	192:14 297:18
219:4 221:16	<b>state's</b> 9:2 80:21	266:14,22 267:19	265:12	<b>summation</b> 58:10
243:12 249:19	<b>station</b> 61:22	268:7 291:20	<b>subcommittees</b>	<b>summer</b> 111:3
253:11 271:18	<b>stationary</b> 124:15	292:7 293:4	142:14 161:20	274:7
275:12 278:15	<b>stations</b> 248:15	<b>strategically</b>	162:2,9 163:6	<b>summers</b> 84:9
<b>started</b> 91:21 92:1	<b>statute</b> 189:22	140:22 260:17	257:18	<b>summer's</b> 275:8
93:13 94:14,22	<b>statutes</b> 177:6	263:2,4,16 291:8	<b>subdivide</b> 19:7	<b>sunken</b> 87:1 88:6
95:5,21 154:15	190:16	291:11	<b>subgroups</b> 241:19	88:16
246:12 272:6	<b>statutory</b> 274:19	<b>strategies</b> 18:14,15	290:18,19	<b>super-critical</b>
273:1 285:14	<b>stay</b> 72:6 132:1	18:15 19:13	<b>subject</b> 77:1 265:6	30:10
295:8	195:17	<b>strategy</b> 74:8 76:17	265:10 266:15	<b>supplements</b>
<b>starting</b> 160:6	<b>stayed</b> 93:12	76:20	269:18 278:1	123:18

<b>supplies</b> 73:1 <b>support</b> 15:2 22:21 29:9 31:11 32:3 33:21,22 38:6 41:4 43:4 45:14 69:10 73:16 74:12 102:10,19 103:8 161:5 184:9 234:7 236:13 237:5 239:14,16 241:4 <b>supporters</b> 213:14 <b>supporting</b> 188:22 236:18 <b>supportive</b> 183:13 188:21 256:9 <b>supports</b> 239:9 242:3 <b>suppose</b> 144:13 208:9 249:10 <b>supposedly</b> 156:18 <b>sure</b> 4:17 12:19 13:11,21 21:17 56:3 58:8 59:8 93:15 107:6 109:20 110:7 111:11 118:17 123:12,14 127:17 131:17 140:14 147:12 159:3 166:6,8,18 169:6 169:9 181:13 186:20 188:20 191:1 194:9 196:6 203:3 205:3 209:12 218:4 231:18 240:4 247:21 248:12 249:21 271:19 273:7 275:5 282:11 286:8 296:4 298:17 <b>surface</b> 120:14 125:7,8 127:16 128:10 256:9 271:3 292:21 <b>surfers</b> 56:4 <b>surge</b> 43:9 44:4	251:6 <b>surges</b> 44:14 <b>surging</b> 127:4 <b>surprised</b> 67:7 243:11 <b>surrogate</b> 136:7 <b>surrounding</b> 29:20 243:16 <b>survey</b> 2:10 24:20 26:13 27:22 28:7 28:8,12,12 29:3 30:9 39:14 40:12 59:18 133:20 135:4 177:9,16,16 178:14 245:4 252:22 256:5 <b>surveyed</b> 245:7 <b>surveying</b> 25:17,20 26:17 27:16 50:2 111:5 185:4 225:17 245:6 254:8 <b>surveys</b> 28:16 40:17 51:6 60:18 61:1,5 107:10 111:12 134:14 135:22 284:15 <b>survive</b> 118:3 <b>survived</b> 86:15 <b>Susan</b> 1:25 51:18 99:7,8 224:7 <b>Susan's</b> 112:7 <b>sustain</b> 36:11 50:14 97:4 <b>sustainable</b> 11:10 16:20 <b>sustaining</b> 52:9 <b>swimmers</b> 56:5 <b>swimming</b> 71:3 <b>syntheses</b> 24:4 <b>synthesis</b> 24:15 <b>system</b> 39:2 46:5 63:17 70:14 115:4 116:5 182:4,8 217:22 223:19 233:8,16 234:19 236:4 239:6,14	269:6 <b>systematic</b> 31:2 114:21 <b>systems</b> 11:2 69:21 70:3,13 71:11 75:13 114:17 120:10,16 184:18 239:21 242:17 <hr/> <b>T</b> <hr/> <b>table</b> 87:10 212:18 236:17 251:8 <b>tack</b> 150:11 <b>tackling</b> 131:1 <b>tailor</b> 99:22 <b>tailored</b> 140:20 <b>take</b> 9:14 15:21 21:2 40:20 42:4 53:1,3 54:4 58:20 65:7 78:14 79:21 80:10 93:4 100:8 104:17,18 106:13 120:11 124:1,7 126:21 135:3 141:4,5 147:16 158:4 162:10,10 179:1 185:5 190:9 197:19 201:21 217:21 218:11 219:14 221:18 235:21 274:8 277:16 291:15 <b>taken</b> 13:8 101:4 119:7 138:6 158:9 260:9 271:11 <b>takes</b> 9:15,17 85:22 116:10 124:1,21 125:6 143:19 155:21 192:14 236:12 273:19 280:17 <b>takings</b> 20:21 <b>talk</b> 14:8 34:7 44:22 49:17 89:4 98:7 110:3 152:1 196:12,18 206:2,3 250:13 292:15	293:11 296:11 <b>talked</b> 62:17 89:18 137:1 138:1 210:22 229:10 233:6 236:15 244:8 264:2 292:17 293:13 294:4 <b>talking</b> 52:10 68:5 81:22 126:6 174:10,11,17 175:11 183:12 196:20 197:15 203:21 210:4 212:13 246:12 253:11 264:7,13 264:14 269:1 283:12 288:10 <b>talks</b> 16:13 111:21 <b>tall</b> 186:10 <b>Tampa</b> 208:10 <b>tangible</b> 253:12 <b>tanker</b> 115:12 <b>task</b> 106:5 108:5 257:18 <b>tasked</b> 50:6 256:10 <b>tasks</b> 29:2 <b>tax</b> 242:8 <b>Teacher</b> 241:9 <b>team</b> 42:16 46:9 102:14 117:2 <b>teams</b> 85:11,14 91:7 <b>technical</b> 38:5 40:6 <b>technologies</b> 38:8 252:19 <b>technology</b> 24:13 100:20 101:11 129:17 130:1 176:14 177:4 256:15 <b>teleconference</b> 171:7 <b>telescopes</b> 10:18 <b>tell</b> 22:9 27:11 41:16 96:6,17,22 98:4 139:15,22	155:17 162:5 179:22 180:8 186:1 194:15 203:16 283:10 <b>telling</b> 59:17 162:4 188:7,13,14 <b>tells</b> 206:15 <b>temperature</b> 89:20 120:14 <b>temporary</b> 75:6 <b>ten</b> 92:2 152:20 <b>tend</b> 208:1 209:22 <b>tended</b> 283:6 <b>tendency</b> 57:19 <b>tenders</b> 120:1 <b>tenure</b> 217:17 <b>term</b> 18:11 19:11 20:11 69:13 233:12 258:21 261:22 281:13 <b>terms</b> 36:5 44:13 67:11 68:6 98:15 103:1 115:18 118:9,22 122:16 126:17 127:6 178:12,19 226:9 230:22 250:2,21 251:2,19 252:5 268:15 <b>terrestrial</b> 9:6 10:13,20 43:21 93:11 108:17 109:14 111:16 <b>territorial</b> 36:6 <b>testified</b> 179:11 <b>testify</b> 150:8 <b>TEU</b> 215:15 <b>Texas</b> 209:4 <b>text</b> 190:16 <b>thank</b> 5:11 6:1,2 7:10,16,20 8:15 14:10 21:19 22:2 34:6,16 48:8,11 48:21 49:4 59:16 61:9 62:17 64:1 64:12 87:5,7 93:15 96:1 99:6
--	---	---	---	---

99:10 103:17	221:14 222:13	127:6 130:17	287:11,14 288:8	208:20 216:1
105:5,7 107:5	248:20 261:15	138:5,16 139:9,18	288:18 289:16,18	221:8,10,18 225:1
108:10 122:4	263:5,12 267:3	140:17 143:14	291:8 292:1 293:9	225:13 231:11
133:6 134:15	281:5 283:1 286:4	155:18 157:19	295:4,9 300:8	233:11 238:19
138:17 165:16	287:21 288:4	159:14 165:10,14	<b>thinking</b> 5:15	240:1 241:5,20
189:2 195:6 196:4	<b>things</b> 4:9 5:2,17	166:11 169:7	12:13 113:14	249:17 255:20
220:22 236:9	11:3,3,14,15 12:7	171:12 172:2,10	114:4 129:21	257:12 265:2
241:4 243:3,4	21:12 26:16 34:22	172:12 173:2	207:5,7 210:2,3	280:12 288:19
254:13 257:6,9	43:13 49:20 57:9	175:9 177:8 180:7	224:10 253:13	293:17 299:8,9,20
261:2 296:9,12,14	59:19 60:3 73:3	180:9 181:5,12	263:16 268:14	<b>threw</b> 14:5 140:7
296:18 299:3,10	95:17 96:1 105:22	189:20 193:3,5,12	269:1 271:18	157:19 253:20
299:14 300:3,4,5	110:13 117:5	193:16 200:16	275:12 283:13	257:11
300:11	118:20 119:14	201:20 203:17	285:12	<b>throw</b> 125:10
<b>thanked</b> 95:13	126:19 129:13,16	204:20 205:2	<b>third</b> 4:4 7:6 53:7	212:18
<b>thanking</b> 296:6	144:3 148:2	206:6,6,9 207:17	67:12 249:22	<b>thumbs-down</b>
<b>thanks</b> 7:3 21:15	157:20 158:1	208:22 211:5	<b>THOMAS</b> 1:22	108:9
34:8 47:16 87:8	180:5 187:4	213:6 215:17	<b>thought</b> 115:22	<b>thumbs-up</b> 108:8
131:21 138:20	192:19 195:15	216:7,17 218:16	135:11 197:13	<b>Thursday</b> 90:7
139:3 189:1 195:8	209:1,18,22	219:15 221:22	208:14 210:16	179:14,20 194:7
223:11 237:11	210:13 221:18	222:5,15 223:8,12	227:21 249:1	198:15
240:20 244:15	225:14,22 226:3,8	223:13,16 224:2	271:13 273:2	<b>tidal</b> 61:12 121:14
246:4 252:6,7	227:1 236:14	224:22 228:6,13	285:4 288:6	121:22 123:10
260:5,21 261:17	243:7,17,18 246:7	228:19,22 229:6	294:12	250:22,22
261:18	249:8 250:10	232:17 233:12,18	<b>thoughts</b> 137:13	<b>tide</b> 61:15 132:11
<b>Thanksgiving</b>	251:2,7 252:10,11	234:5,8 235:2	194:4 206:4	132:11 250:15
197:5 200:16	253:22 254:21	236:11 237:4	210:17 217:10	290:3
<b>theme</b> 264:17,20	255:2 256:4 258:6	240:13 241:16,18	218:11 219:15	<b>tides</b> 124:3,13,22
265:5 266:16	259:3,16 260:11	242:8 243:2,15,22	221:5,17 224:9	<b>tie</b> 54:7 253:17
267:18 268:7	262:14,19 263:22	244:5,10 245:1,14	241:16 244:16	<b>tied</b> 54:4
270:4	264:8 266:21	247:4 250:1,4,7,9	260:11 267:17	<b>ties</b> 73:12 248:6
<b>themes</b> 263:6,7,14	267:8 268:20	250:10,14,16	269:9,14 282:22	<b>Tiffany</b> 2:15 4:11
263:15 266:4,22	276:8,16 280:4	251:21 252:5	<b>thousands</b> 25:11	4:16 299:19
267:19 283:10	283:8 289:13	254:11,18 255:6,9	<b>threat</b> 66:16	<b>time</b> 25:2,2 26:16
284:2 286:1 289:2	290:11 291:11	255:10 256:8	<b>three</b> 9:7 10:17	26:20 27:18,19,21
292:17	292:16 295:19	257:3 258:12,15	17:11 41:6 48:6	40:21 45:13 48:1
<b>theoretically</b>	<b>think</b> 5:9,18 17:17	259:5,11 260:4,8	52:20 55:3 65:21	55:17,21 60:10
162:19 261:22	18:9 39:9 41:10	260:17,18,19	74:6 77:3 78:10	63:19,21 70:21
274:17	41:15,22 42:13,16	261:8 263:2,4,15	78:12,15 83:10	78:10,13 87:6
<b>thing</b> 12:22 17:22	42:22 45:7,11,14	266:14,20 268:4,6	91:12 99:3 115:3	90:20 91:16 94:7
35:8 45:18 52:10	45:16 46:1 47:14	270:9,14,17 272:1	136:3 139:11	94:8 108:19 110:7
52:15 53:7,19	49:1,13 87:9,18	272:16 273:10,11	144:10 154:12	113:22 115:1
96:19 104:7 111:2	89:12 92:1 97:14	273:20 274:16	160:1 164:12	117:17 118:8
115:11 129:7	102:9 103:12,14	276:7 277:15	171:5 176:11	119:15 123:22
143:22 151:19	106:3 107:19	279:11 280:19	177:15 196:5,15	124:1 129:12,19
160:12 197:3	117:18 121:12	281:10,20 283:22	198:16 200:5,11	130:4 147:3,7,18
198:14 202:22	122:1 124:11	285:1,2 286:3,5,9	204:9,14,14,22	152:22 154:11
206:6 213:20	126:13,17,19	286:10,12,16,20	205:10,12 206:5	155:5 156:6 159:2



159:16,22 163:14 166:4 173:7 184:10 188:3 193:13 196:8 197:6,8,11 206:13 208:6 223:16 254:18 261:18 267:12 271:11 272:14 275:18 276:10,12 279:12 281:13 285:18 291:10 300:10 <b>timely</b> 64:13 <b>times</b> 21:3 47:20 52:18 60:6 82:3 197:3 222:10 238:8 239:5 241:14 <b>time-based</b> 123:17 124:9 <b>time-frame</b> 160:15 <b>time-line</b> 153:17 <b>timing</b> 196:20 <b>tirelessly</b> 299:7 <b>title</b> 171:10 178:4 239:11 <b>today</b> 5:22 8:2,9 34:17 66:5 111:12 170:18 197:14 212:9 251:14 259:12 264:2 <b>told</b> 87:12 103:21 148:21 <b>Tom</b> 274:16 288:5 <b>tomes</b> 289:13 <b>Tony</b> 194:17 <b>tool</b> 23:21 <b>tools</b> 23:11,11,15 38:6 44:8 <b>top</b> 39:22 67:8 160:16 161:17 166:3 167:5 223:14 284:20 <b>topic</b> 36:4 206:8 224:9 242:9 <b>topics</b> 225:4 <b>topography</b> 89:21	289:9 <b>tossed</b> 124:6 <b>total</b> 87:18 88:20 152:12 250:19 <b>totally</b> 7:13 133:1 268:1 <b>touch</b> 243:21 300:9 <b>tough</b> 193:13,20 238:21 261:9 267:11 <b>tour</b> 58:21 185:5 <b>Tourism</b> 111:10 <b>towing</b> 51:17,22 54:13 <b>toying</b> 18:17 <b>track</b> 248:17 298:10 <b>trade</b> 181:17,19 222:17 <b>trading</b> 222:13 <b>traditional</b> 38:20 38:21 84:7 186:17 213:7 229:4 288:4 290:14 <b>traditionally</b> 229:21 265:16 283:3 <b>traffic</b> 41:15 78:12 114:17 115:4 116:4 117:20 <b>training</b> 38:12,14 101:1,5 <b>trains</b> 271:2 <b>transit</b> 50:16 <b>transits</b> 126:16 <b>transparent</b> 237:20 238:6 <b>transportation</b> 176:9,15 182:4,8 293:7 <b>travel</b> 40:19 199:2 205:5,21 236:22 <b>traveling</b> 198:19 <b>trees</b> 86:20 87:2 <b>tremendous</b> 39:17 45:7 185:22 259:17 299:17	<b>trend</b> 21:11 <b>tricky</b> 239:15 <b>tried</b> 27:8 35:18 175:1,7 187:19 250:18 289:22 <b>trip</b> 252:4 <b>tri-office</b> 278:9 <b>trouble</b> 284:4 <b>true</b> 174:8 189:14 <b>trust</b> 183:4 245:17 <b>truth</b> 136:17 <b>try</b> 5:15 21:7 23:2,8 25:19 29:13 52:11 98:10,12 115:21 117:16 128:3 148:8 155:4 166:21 173:18 174:22 178:18 183:1 221:10 224:20 227:18 231:17 234:16 237:5 246:15 252:20 262:20 264:19 266:7,8 267:6 279:4 282:8 284:14,15,19 285:19 296:22 <b>trying</b> 18:1 21:4 80:19 89:6 101:10 110:2 136:11 137:5 138:9,10,14 157:1 160:2 168:12 181:20 183:22 184:12 185:10 186:1 190:12 197:10 240:15 253:8 260:14 269:9 <b>tsunami</b> 28:18 41:9 42:8 44:2 45:2,4 45:11 46:19 54:6 59:16 67:12,16 71:13 73:8 79:10 81:6,10 83:5 86:21 87:11,19 88:21 90:6,21 94:21 96:4 100:1	101:15 103:2,8,22 104:5,10,13,14 113:14,19 118:14 118:16 119:3 122:10 126:21 128:17 129:3,19 129:21 131:2 217:8 251:6 <b>tsunamis</b> 28:20 41:19 43:11 60:18 103:1 <b>Tuesday</b> 198:19,21 <b>turn</b> 4:12 47:14 48:3 57:22 101:7 113:10 219:2 <b>turnaround</b> 25:2 257:4 <b>turned</b> 4:14 <b>turning</b> 112:4 <b>turnover</b> 183:17 <b>turns</b> 273:20 <b>tutorial</b> 100:18 <b>tweak</b> 146:18 153:14 <b>twice</b> 171:6 197:4 <b>two</b> 5:9 6:6 25:2 34:22 35:3 45:5,5 47:20 49:4,20 52:20 54:4,5 62:8 69:22 70:17 76:1 77:5,21 87:10 99:2 115:3 137:14 143:16 163:19 170:3,8 171:5 185:2 196:15,19 197:11 199:7 200:5,11 202:2 204:8,21 205:7 206:4 221:9,18 224:12 241:20 250:6 251:16 261:5 263:19 264:9 283:8,15 288:19 290:5 <b>Two-thousand-six</b> 208:4 <b>type</b> 16:3 41:3	55:14 63:16 108:20 122:20 135:7 197:2 221:14 253:15 263:10,12 266:15 266:21 268:16,19 287:21 289:21 <b>types</b> 11:14 89:7 123:10 263:13 292:18 293:19 <b>typhoons</b> 43:10 <b>typical</b> 71:5 199:2 199:7 <b>typically</b> 70:10 71:9 123:19 135:5 157:13 160:12 163:3,9 167:22 177:1 280:10 296:20
<b>U</b>				
<b>UH</b> 17:1 <b>ultimately</b> 77:14 <b>umbrella</b> 257:1 <b>unabashedly</b> 27:12 <b>unavoidable</b> 116:21 <b>unaware</b> 251:18 <b>uncertainty</b> 20:20 <b>uncommon</b> 186:22 <b>underlying</b> 31:18 236:21 <b>undersea</b> 112:10 <b>understand</b> 20:14 53:13,14 61:11 63:20 109:18 121:19 140:21 169:10 175:15 221:22 224:21 240:5 253:8 254:18 256:13 <b>understanding</b> 54:21 121:16 171:1,3 193:13 217:7 234:14 253:9 276:16 <b>understood</b> 104:12				

246:10 <b>undertaking</b> 233:10 <b>underway</b> 28:15 97:8 116:11 <b>under-funded</b> 103:13 <b>under-represented</b> 282:13 <b>Under-Secretary</b> 146:14,20 <b>uneducated</b> 254:20 <b>unencumbered</b> 9:22 <b>unfamiliar</b> 224:18 <b>UNH</b> 136:9 <b>uniquely</b> 65:15 67:13 72:21 <b>United</b> 41:13 43:3 46:20 51:21 55:3 77:17 79:7 <b>University</b> 2:14 13:2 14:4 24:13 38:15 46:7 96:16 111:4 130:16 238:10 <b>unpredictable</b> 188:4 <b>unself-sustaining</b> 53:11 <b>update</b> 3:17 128:5 245:3,10 <b>updated</b> 74:7,18 85:9,10 88:12 <b>uploaded</b> 192:13 192:15 <b>upper</b> 41:14 44:20 <b>urban</b> 11:13 15:6 16:15 19:8 <b>urged</b> 293:8 <b>use</b> 11:8,10,11 21:8 29:13 32:14 37:12 37:13 39:6 44:8 45:14 58:11 72:8 96:9 106:6 110:11 128:9 171:10 185:20 238:14	242:8,8 248:16 252:20 254:21 255:1 256:18 <b>useful</b> 6:17 23:21 135:13 138:10 224:20 276:7,11 294:13,18 <b>user</b> 186:17 221:21 270:9 <b>users</b> 6:17 9:20 136:20 <b>uses</b> 11:9 23:17 79:3 223:9 <b>USGS</b> 35:19 69:21 77:16 78:7,20,22 252:15 <b>USN</b> 270:9 <b>usual</b> 245:3 <b>usually</b> 52:10 115:9 135:6 138:8 155:5 167:22 192:12,14 194:9 198:14 245:4 271:16 297:17 298:6,10 <b>utilization</b> 106:19 <b>U.S</b> 1:1 2:3,19,21 3:12 31:14 37:6 51:19 54:19 99:9 99:13 117:11 118:14 182:2 251:2	292:18 <b>vast</b> 25:10 250:7 <b>VDatum</b> 44:8 236:20 <b>Vector</b> 169:13 <b>vegetation</b> 18:4,5 <b>vehicles</b> 42:10,11 <b>version</b> 142:15 157:1 162:13 194:2 <b>versus</b> 23:6 217:10 226:7 <b>vertical</b> 44:6 250:20 253:19 <b>vessel</b> 29:4,9,14 30:17 53:8,12,13 55:15 63:4,9 100:22 114:16,22 115:4,13,18 116:4 124:5 125:5,5 132:4,6,14,17 <b>vessels</b> 28:11 45:5 51:4 53:4,10 55:4 56:1 57:14,15 88:10 93:18 94:19 100:14 115:4,9,10 115:21 120:13 245:4,5 <b>vet</b> 143:20 <b>VHF</b> 100:20 <b>viable</b> 32:4 <b>vice</b> 1:19 115:13 209:8 214:10 246:5,6 247:20 249:7 265:19 272:10,16 278:4 <b>videos</b> 130:20 <b>view</b> 21:2,4 242:13 <b>views</b> 22:4,7 <b>vine</b> 235:5 <b>Virginia</b> 2:13 167:12 199:10 207:11 213:14,15 220:22 260:1 299:19 <b>visible</b> 83:20 <b>vision</b> 68:12 69:15	77:2 <b>visit</b> 66:18 83:16 115:5 202:3,16 203:2 204:11 216:17 <b>visiting</b> 58:22 <b>visitors</b> 58:20,22 68:8 <b>visits</b> 202:10,11 <b>vital</b> 65:8 246:9 <b>vocabulary</b> 134:17 <b>Vogetrader</b> 132:8 <b>Volcanic</b> 66:13 <b>voting</b> 198:4 226:11 232:6 <b>voyaging</b> 37:13 <b>vulnerability</b> 74:7 76:16 131:15 <b>vulnerable</b> 41:18	235:11 255:15,18 258:19 259:1 260:2 261:2 262:20 267:6,20 268:14 271:18 272:1,16 273:21 280:2 281:20 282:1 285:9,19,21 285:21 287:20 288:3 291:12 296:7 <b>wanted</b> 39:10 41:2 133:13 152:6 204:2 212:18 218:22 220:9 257:10 261:6 284:7 299:5 <b>wants</b> 21:9 166:2 263:1 272:2 <b>War</b> 186:12 <b>Warfare</b> 292:22 <b>warning</b> 69:21 70:3 71:11 78:10 90:7 90:21 <b>warnings</b> 83:5 <b>wash</b> 85:20 <b>washed</b> 87:4 <b>Washington</b> 175:8 <b>wasn't</b> 4:13 155:11 210:19 228:21 229:3 247:17 276:9 <b>watch</b> 83:21 194:16 195:3 <b>water</b> 9:18,19 11:2 44:11 52:8 55:10 55:21 56:3 57:6 57:11 63:8 75:13 78:21 85:16,17,19 85:20,21 86:6 88:7 89:7 95:8 98:21 119:11 124:5 125:4,11 129:2,10,14,16 251:2 253:11 <b>waters</b> 49:22 52:20 95:7 124:16 212:3
--	--	--	---	---

<b>watershed</b> 9:14	143:4 223:20	123:5,13 127:12	277:12,20 278:15	43:11 49:3 53:6
<b>waterway</b> 60:19	224:1 248:16,19	128:15 130:10	278:18 279:1,4	58:17,18 59:13
<b>waterways</b> 2:2 3:10	249:2	131:5,8,22 132:19	281:3,12 282:12	60:4 64:10 65:5
49:11 51:13 54:11	<b>weaving</b> 15:5	133:6,15 134:16	282:21 287:1,14	66:9 67:13 68:4
59:6 61:7	<b>web</b> 62:18 194:21	137:11,17 138:16	288:21 289:10,20	70:7,8,12 72:16
<b>Watson</b> 2:22 5:3	<b>webcast</b> 194:7,10	139:9 150:10	290:16,22 292:8	72:21 75:22 79:13
62:17 190:17	<b>website</b> 24:22	156:16 158:6	292:13 293:11,22	80:13,14 81:22
191:17 192:11	101:2 190:7,8,15	167:1,16 168:6	295:3,7,12,14,17	82:17,18 85:6,11
195:13 197:8	190:15 191:7,9	169:1 171:18	296:2,4,11 297:2	103:22 111:15
198:13 199:20	192:1 297:21	172:2,11 173:22	298:1,6,18 299:1	113:18,20 116:15
200:4,7,11,14,18	298:13,16	174:19 176:4	299:12	120:9 122:2
201:12,17 204:7	<b>websites</b> 257:20	189:2 190:14,19	<b>welcome</b> 4:19 7:9	125:16,16 126:11
220:3 274:1,6	<b>wedding</b> 87:15	191:3,20 192:18	47:21 48:7 64:4	131:22 135:21
277:2,5,19 278:3	<b>Wednesday</b> 198:15	193:21 194:11	<b>Welcome/Day</b> 3:2	136:11 137:4,5
278:6,17 297:7,13	198:19,21	195:5,10,14 196:2	<b>welfare</b> 49:21 65:5	139:14 140:1
298:21 299:2	<b>wee</b> 82:6	197:9 198:22	<b>WELLSLAGER</b>	141:10 146:2
<b>wave</b> 72:3 82:2,5	<b>week</b> 42:17 81:5	199:17,21 200:6,8	1:19 209:8 214:10	148:14 149:7
83:7 90:16,22	131:10 155:19	200:13,15,20	246:6 247:20	154:22 155:13
91:13,15 92:4	181:7 183:6	201:8,15,19 202:9	249:7 278:4	156:1,6 159:16
94:13 110:13	192:12 197:11,21	202:20 203:1,4,10	<b>went</b> 4:10 15:17	160:1,3 174:17
<b>waves</b> 91:14 94:13	198:2,4,5,12	203:13 204:12	85:13 129:12	175:16 180:2,12
<b>way</b> 15:11,17 16:7	199:11,14 200:1,5	205:13,20 206:1	139:7 179:10	180:17 181:20
16:9,19 27:22	200:9,10,16,16,19	206:19 207:3	195:22 208:5,18	182:18 183:22
52:3 57:10 58:6	200:19,21 201:13	208:5 209:3,12	209:10 285:14	184:11,14 185:22
59:7 61:15 72:7	205:6 218:22	210:14,17 211:1,3	294:19	187:6 188:22
72:15 73:5,7 78:6	219:10,18 220:17	211:9,11,17,20	<b>weren't</b> 12:2 60:9	191:12 195:11
84:7 86:7,8 92:16	220:20 221:8	212:5,8,11 213:16	248:3	196:4 198:4
114:2 119:1,15	267:16	214:9,19 215:4,6	<b>west</b> 113:18 208:17	200:21 203:21
129:20 130:4	<b>weekend</b> 205:9,10	215:10,19,22	216:1	206:2,7 213:21
132:12 135:12	220:1	216:4,20 217:4,9	<b>we'll</b> 4:3 7:5,14 8:5	216:6 224:5 236:5
137:6 153:3,15,15	<b>weekends</b> 70:17	218:8 219:1,6,12	8:9,13 23:8 34:7	237:2 244:13
156:2 172:13	<b>weeks</b> 87:11 170:4	220:14,21 223:11	34:14 48:3 63:20	252:14 255:12
173:13 176:21	170:8	224:4 225:6	103:19 139:2	256:7,10 260:12
185:17 196:7	<b>week-by-week</b>	226:19 227:3	145:14 146:1	260:14 264:7
203:15 216:13	197:19	228:13,19 229:13	155:15 196:18	280:1 283:17
220:20 222:10,19	<b>weigh</b> 115:11	229:16,20 231:5	197:16 205:3	290:21 291:10
231:17 234:11	<b>Welch</b> 1:16,18 4:3	237:8,11 240:20	215:15 217:19	292:6
248:4,21 249:3	5:5 6:2 7:11 8:5	243:4 244:15,19	218:19 220:12	<b>we've</b> 5:17 8:6,7
255:10 256:2,12	8:14 21:15 34:8	245:11 246:4	224:6,7 231:22	12:6,14 13:1,8,19
257:4 262:10	34:14 47:16 48:3	249:6,9 252:7	249:19 252:19	16:7 22:18,20
<b>ways</b> 7:1 182:18	48:10 51:18 64:1	254:13 257:6	298:14 300:8,9,10	25:19 26:4,22
184:11 207:13	64:7 87:7 88:18	259:22 260:21	<b>we're</b> 5:10,15 6:19	29:21 33:12 34:9
245:15,22 246:17	96:11 99:7 103:18	268:13,19 269:8	7:13 9:6 10:4,9	37:12 39:12 66:11
247:5 253:13	104:20 105:5	269:21 270:18,21	13:9 16:14 17:22	67:8 71:6,9 73:6
<b>weather</b> 38:17 54:6	111:14 112:6	271:5 272:4,9,13	18:1,12,17 19:5	75:15,21 78:9
59:15,22 95:14,20	113:9 119:17	272:17,21 273:9	19:22 21:4 34:5	80:7 83:6 92:9,16
102:3 124:14	120:17 122:6	274:2,13 276:19	41:3 42:13 43:7,9	97:15 107:12

116:5 120:11 139:11 146:10 147:14 175:1 176:4 186:19 191:4 198:18 200:18 203:13,15 206:9 207:12 209:13 212:22 220:14 223:13 231:18 232:5 233:5 236:14 243:19 256:4 264:16 270:12 271:6 275:18 283:4,5 286:10 291:9 295:15 298:18 <b>whack</b> 144:12,17 <b>where-with-all</b> 99:4 <b>White</b> 142:3 262:4 <b>wide</b> 9:4 23:21 24:1 105:1 <b>wiggle</b> 157:10 <b>wildfires</b> 66:11 <b>Wildlife</b> 9:13 <b>willing</b> 12:16 265:21 <b>win</b> 233:3 <b>wind</b> 10:21 108:2,3 108:15,16,18,20 109:3,4,7,7,10,12 109:14 110:12 111:6,17,18,21 112:1,3,7,14,19 113:7 124:4,22 210:22 211:15 212:1,4,10 239:1 <b>window</b> 154:6 <b>winds</b> 124:13 125:8 132:15 <b>windward</b> 15:13,17 <b>wire</b> 234:20 <b>wise</b> 233:12 <b>wish</b> 98:20 245:3 280:14 <b>wish-list</b> 76:22	<b>woefully</b> 254:20 <b>Wolf</b> 167:12 <b>wonder</b> 88:19 115:17 225:15 <b>wondering</b> 90:18 101:18 128:7 191:6 276:20 297:3 <b>word</b> 35:1 43:17 166:6 275:15 <b>words</b> 150:18 229:1 275:6 279:22 282:10 <b>work</b> 22:9,19 25:9 35:4 37:5,9,14 39:17 40:7 41:3 45:8 56:11,12 74:14 76:18 81:2 92:7 98:4,8 129:4 130:15,21 131:3 131:20 134:15 137:17 139:19 146:17 148:10 162:3 177:5 182:3 182:9,21 183:8 186:20 205:11 215:3 218:1 220:7 222:5 240:6,7 246:17 247:1,4,6 247:10,13 250:11 251:1 253:3 260:14,15 267:4 271:21 272:20 284:18 287:11 288:11 299:17 300:2 <b>worked</b> 13:1 69:21 77:19 95:18 155:3 <b>working</b> 6:20,21 22:8 25:7 38:13 38:17 39:20 55:1 98:11 110:6 115:1 117:10 149:8 151:4 152:22 153:20 154:6 156:7 159:16 160:1 183:3 185:7	230:9,10,14,16 231:2,15 233:17 240:17 241:19 245:15 247:21 253:18 256:5 257:14,18,22 258:1,14,18 259:6 265:2,4,22 266:21 267:4,19 299:7 <b>workloads</b> 197:2 <b>works</b> 35:7 37:22 39:14 92:6 140:12 140:19 155:18 156:2 162:14 197:12 233:21 234:13 <b>world</b> 150:14 216:18 <b>worrying</b> 60:10 <b>worse</b> 198:1 <b>worth</b> 76:1 <b>worthwhile</b> 261:15 <b>wouldn't</b> 51:8 70:15 101:21 142:19 175:12 200:17 220:7 243:20 265:20 279:22 <b>wrap</b> 5:10 132:1 196:7 <b>wrapping</b> 127:1 <b>write</b> 157:1 166:15 288:8 <b>writing</b> 295:8 <b>wrote</b> 225:12 284:12	81:13 89:2 121:5 121:5,9 143:16,18 145:21 146:2 148:19 149:13 150:18,19 151:18 154:7,10,15,18 155:1,9,13,15,16 156:17,17 157:12 157:15 160:1,2,5 160:6 162:18 163:1,16,17 171:6 177:19 179:9 197:4 207:10 215:14,17,18,21 216:5 233:12 259:2,8 261:21 274:7 277:5 281:15,18 <b>years</b> 5:19 11:16 12:6 16:8 17:3 23:18 25:3 27:1 28:14,21 55:17 61:11 74:6 104:10 104:10,14 108:21 129:5,22 143:16 154:12 155:6 158:17 175:3 207:16,19 213:21 223:13 241:20 250:2,17 272:5 283:3 <b>year-round</b> 83:19 <b>yellow</b> 17:18 <b>yesterday</b> 51:17 150:12 218:3 <b>Yoder</b> 169:19 <b>Young</b> 179:4	<hr/> <b>\$</b> <b>\$10</b> 88:4,14 <b>\$100</b> 243:20 <b>\$2</b> 121:8 <b>\$35</b> 243:12 <hr/> <b>1</b> <b>1st</b> 143:18 150:19 151:1 152:13 154:8,9 156:18 163:1 <b>1:25</b> 196:1 <b>10</b> 11:16 12:6 108:21 113:21 116:10 117:19,20 118:6 119:3 129:22 152:22 221:3 232:5 233:10 294:8 <b>10:00</b> 90:7 <b>100</b> 16:8 17:3 <b>101</b> 140:8 <b>108</b> 3:6 <b>11</b> 114:3,4 139:5 <b>11th</b> 42:7 83:11 <b>11:00</b> 93:11 <b>11:02</b> 139:7 <b>11:30</b> 139:8 <b>12</b> 156:17 161:19 163:6 <b>12th</b> 42:7 <b>12,000</b> 215:15 <b>12:25</b> 195:22 <b>13</b> 51:3 53:4 54:1 <b>139</b> 3:17 <b>14</b> 54:17 151:3,16 <b>14th</b> 200:13 <b>14,000</b> 215:15 <b>15</b> 139:4,5 152:22 176:4 232:6 298:19 <b>15,000</b> 55:22 <b>160.111</b> 94:19 <b>17th</b> 197:20 199:11 199:17 <b>18</b> 67:6 143:15 <b>1812</b> 186:12
---	---	---	---	---

<b>1947</b> 177:10	<b>3:30</b> 94:13			
<b>195</b> 3:20	<b>30</b> 17:16 32:11			
<b>1964</b> 104:1	109:6 113:21			
<b>1976</b> 103:21,21	118:6 119:3			
<b>1991</b> 68:5	191:21 192:15			
<b>1992</b> 68:5	297:17			
<b>1998</b> 177:11	<b>31st</b> 200:2			
	<b>33</b> 94:18 178:4			
<b>2</b>	<b>34</b> 3:9			
<b>2</b> 3:2				
<b>2,500</b> 50:4 277:6,14	<b>4</b>			
<b>2,800</b> 218:3	<b>44</b> 74:1			
<b>2:30</b> 94:12	<b>48</b> 3:12			
<b>20</b> 54:3 68:3 104:10				
109:4,6 184:17,19	<b>5</b>			
<b>20-feet</b> 125:4	<b>5</b> 3:2			
<b>2000</b> 73:14	<b>50</b> 25:14			
<b>2002</b> 35:18 177:12	<b>50-foot</b> 125:5			
177:18				
<b>2004</b> 36:10	<b>6</b>			
<b>2005</b> 106:22	<b>6</b> 1:12			
<b>2006</b> 208:6	<b>60</b> 17:17 192:15			
<b>2008</b> 77:21 177:12	297:17			
<b>2009</b> 111:3	<b>64</b> 3:14			
<b>2010</b> 51:2 132:8				
154:16	<b>7</b>			
<b>2011</b> 1:12 154:14	<b>7th</b> 200:9			
155:13 274:7				
<b>2011/2012</b> 158:14	<b>8</b>			
<b>2012</b> 47:11 54:15	<b>8th</b> 81:9			
54:17 55:5 177:20	<b>8:00</b> 90:14,15			
178:22 186:10	<b>8:30</b> 1:15			
<b>2013</b> 159:16 186:13	<b>8:43</b> 4:2			
<b>2015</b> 182:6	<b>8101</b> 28:9			
<b>2052</b> 17:12				
<b>2078</b> 17:13	<b>9</b>			
<b>21</b> 3:8	<b>90's</b> 68:4			
<b>2104</b> 17:6,13	<b>98</b> 50:13			
<b>24th</b> 199:22 200:19				
220:3				
<b>24/7</b> 83:18				
<b>25</b> 51:4 182:11				
<b>255</b> 3:22				
<b>2552</b> 1:15				
<b>3</b>				
<b>3:00</b> 90:16 94:12				
300:14				

C E R T I F I C A T E

This is to certify that the foregoing transcript


In the matter of: Hydrographic Services Review Panel

Before: NOAA

Date: 05-06-11

Place: Honolulu, HI

was duly recorded and accurately transcribed under  
my direction; further, that said transcript is a  
true and accurate record of the proceedings.

  
-----  
Court Reporter

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)